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With Which Is Combined

PAPER

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United States Paper Review for 1932

Total Production for Past Year Estimated At 8,000,000 Tons, Compared With 9,381,850 Tons In 1931—General Review Indicates That Paper Industry Has Not Been Affected by The Depression to The Same Extent That Other Major Industries Have

Written Specially for the PAPER TRADE JOURNAL by J. A. C. Kavanaugh

In 1929 we had "Profitless Prosperity," in 1930 we had a "mild business readjustment," in 1931 we had a "corrective deflation," in 1932 we were still "turning the corner" toward prosperity and now coming into early 1933 we have technocracy. But the paper industry like "old man river" keeps on rolling along and of course not without some occasional meandering.

In 1932 both volume and prices showed continued reduction; the spread between capacity and production increased; raw material competition, from foreign countries which were off the gold standard, had not abated; costs of production were reduced, even in the face of reduced volume; some grades have apparently reached a point of stability and those sections of the industry which were in difficulty, because of over-capacity, before 1929 have approached a position where they can probably profit by any moderate improvement in general business.

Consumption Contrasted

The per capita consumption of all grades of paper and paper board in 1932 amounted to about 160 pounds as contrasted with 181 pounds in 1931 and 220 pounds in 1929. The per capita consumption shows a sharp drop as a result of the combined increase in population and the decrease in production, bringing the per capita consumption down to the level of 1922-23. The per capita consumption of paper board in 1932 was 52.8 pounds as against 72 in 1929; wrapping paper, 18.8 pounds as against 26 pounds in 1929; news print 48.8 pounds in 1932 against 62 pounds; book 16 pounds per capita as against 24 pounds in 1929; writing and cover 6.8 pounds as against 10.2 pounds in 1929.

The rates of operation in the various grades were relatively low and wrapping and tissue the only grades operating over 70 per cent of capacity, according to identical mill reports to the American Paper and Pulp Association. Other major grades operated at 60 per cent of capacity or lower while the paper industry as a whole operated at the rate of about 57 per cent of capacity, which was the lowest on record. According to the data gathered by the Writing Paper Manufacturers Association, six new machines with a capacity of 181 tons per day, were added in 1932. This was the smallest capacity addition in thirteen years.

UNITED STATES PAPER PRODUCTION

	* 1932	1931	1930	1929
U. S. Total	8,000,000	9,381,850	10,169,140	11,140,235
News print	1,050,000	1,203,862	1,226,086	1,409,169
Hanging	68,000	85,375	106,427	101,002
Catalogue	77,000	89,382	114,588	111,771
Book	1,000,000	1,208,674	1,389,500	1,497,912
Cover	14,000	30,000	40,059	28,07[illegible]
Writing	414,000	487,598	574,681	607,59[illegible]
Wrapping	1,175,000	1,401,667	1,580,489	1,605,783
(a) Sulphite—Other (b) Kraft				
Tissue	360,000	394,623	362,355	387,81[illegible]
Absorbent	65,000	76,592	81,813	90,80[illegible]
Building	347,000	395,359	468,730	659,178
Poster, Novel, Etc.	107,000	160,895	163,696	150,649
Other	23,000			39,311
Paperboard	3,300,000	3,847,823	4,060,716	4,451,187

* Estimated—1929-1930-1931 Bureau of Census.

Manufacturing Costs Reduced

Costs of manufacture were materially reduced in harmony with the decrease in raw material and labor costs and prices of paper fell off quite sharply. It was obvious that lower prices did not stimulate any general increase in volume, except in a few low grade items, but that price reductions were more a result of a desperate attempt to get any attractive volume of business that put in an appearance and in a number of instances were also the result of anticipating lower raw material costs. Regional competition continued to be an important factor in determining price levels.

A study of the quotations made for government paper contracts, as printed in the PAPER TRADE JOURNAL, show a much wider spread between the high and low bids than was previously the case in the past six years. Likewise the rate of decline from 1931 to 1932 was much sharper than in any years during the 1927-1932 period. Strangely enough some of the "high" quotations in 1932 were above the level of 1931 but the "lows" were pretty consistently below the level of the 1931. One thing that can be said in regard to prices in the paper industry is that although they have dropped, nevertheless they showed a higher degree of stability than was the case in most other major industries.

Marketing Conditions

The general aspects of the paper industry have registered a change so that although production and production methods have been paramount dur-

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Fight for Countervailing Duties Continues

Badger Paper Mills Contemplate Closing of Sulphite Plant Unless Congress Acts—Asks for Legislation to Offset Depreciated Foreign Currencies—Green Bay Pulp Imports More Than Doubled In 1931 and Again Doubled in 1932

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., January 16, 1933.—Faced with the alternative of buying foreign pulp in order to stay in the market, the Badger Paper Mills, Inc., Peshtigo, Wis., is contemplating the closing of its sulphite plant, according to E. A. Meyer, president, unless countervailing duties on imported pulp are placed in effect soon by Congress.

This company's situation is cited as typical of the pulp mills that have banded together to save the industry by a duty sufficient to overcome the depreciation of foreign currency in nations off the gold standard.

Gravity of the situation is pointed out by Mr. Meyer in a letter he has transmitted to each senator and representative of Wisconsin and Michigan. The letter says in part:

"There is before the Ways and Means committee of the House for consideration House Bill HR-13790 to provide revenue, to provide employment for American Labor, and to encourage the industries and agriculture of the United States by compensating for depreciation in foreign currency.

"Our interest in this measure lies primarily in the fact that the present disparity in exchange enables foreign sulphite manufacturers, with their cheap labor, to underquote domestic producers to such an extent that a number of Wisconsin sulphite mills have already been closed down. We have reduced our cost of manufacture as far as it is physically possible to do so, consistent with the reasonable wage scale, but in spite of these economies, we are now faced with the absolute necessity of importing foreign sulphite and closing down our sulphite mill if we are to continue competing in the paper industry. . . . Our sulphite plant involves a capital outlay of only $500,000, and the demolishing of this capital value is insignificant compared to what a closed mill would mean in lost labor when computed in its back kick to the raw materials grown on American soil."

Aggregate expenditures of $800,000 annually for materials, power, transportation, labor and services by the closing of this one mill are detailed in the letter, after which Mr. Meyer adds:

"In giving you this information, we are not actuated by selfish motives, because if our sulphite plant did close down, we would still have a paper mill, and could buy foreign pulps at a cost considerably below our own cost of manufacturing this article, and we would then be on an equal basis with any other paper mill in the United States which is not producing its own sulphite. There is only one solution to stem this pending economic loss; i. e., by the proper exercising of the powers invested in you to enact proper protecting legislation to offset the evils of depreciated foreign currency. We do not ask for a protective tariff, but merely the enactment of such remedial measures as will restore the cost ratio to conditions existing before our foreign competitors went off the gold standard."

Further basis for the fight being waged under the leadership of Wisconsin mills for the countervailing duty is shown in the figures on pulp importation at ports on the Great Lakes. Green Bay's pulp imports jumped from 4,596 tons in 1928 to 16,136 tons in 1932; Manitowoc from 3,268 tons to 14,743; Milwaukee from 6,328 to 23,821; South Haven, Mich., from 3,720 to 70,930. Total imports for the last five years were as follows: 1928—28,067 tons, 1929—16,173 tons, 1930—32,758 tons, 1931—73,767 tons, and 1932—146,540 tons. Imports more than doubled in 1931, when most of the countries went off the gold standard. They doubled again in 1932, the first complete year in which these nations were off the gold standard.

Railroad Switching Charges

The Nekoosa-Edwards Paper Company, the Marathon Paper Mills Company and the Mosinee Paper Mills Company lost their appeal to the Wisconsin Supreme Court to re-establish contracts by which three railroads paid them for performing terminal switching at their mills.

In the state legislative session two years ago, a law was passed forbidding the railroads paying switching charges. The roads which had agreements with the paper mills later filed cancellations with the Wisconsin Public Service Commission.

Upon acceptance by the commission, the paper companies brought suit and attacked the constitutionality of the law. Circuit Judge A. G. Zimmerman at that time said he could find no reason to hold the enactment invalid and the case was carried on to the Supreme Court.

The high court held acceptance of the new tariffs by the public service commission ended the case. The opinion did not pass upon the constitutionality of the statute so the way was left open for another action confined to the question of constitutionality only. The Supreme Court said the railroads involved in the case, the Chicago and Northwestern, the Chicago, Milwaukee, St. Paul and Pacific, and the Soo Line, had a right to file the new tariffs eliminating the switching contracts and the public service commission had authority to accept them and no further point need be passed upon.

Fragile Rate Briefs Filed

Briefs have recently been filed with the Interstate Commerce Commission in three freight rate cases affecting Wisconsin paper mills. The Wisconsin Paper and Pulp Manufacturers Traffic Association has replied to the recent petition of various railroads for reductions in news print rates from the Fox River Valley and related territory without accompanying reductions in other paper rates. Under the 1922 Minnesota-Ontario case decision, all paper rates in this territory are related and reductions in one variety necessitates reductions in others.

The Wisconsin association now says it will not oppose the railroads' request if it is meant to apply solely to destinations mentioned in Colorado and Wyoming where there is Pacific Coast competition to be met, but adds that it will "strenuously object" to any general order which would destroy the 1922 relationship and work "a grave injustice to interested shippers."

The second brief is that of the Michigan Paper Mills Traffic Association, stating that recent reductions in paper rates from Wisconsin, Upper Michigan and Minnesota to Illinois and Wisconsin points have further aggravated the discrimination against most Michigan mills and the preference granted Wisconsin mills. The Michigan asso-

ciation asks permission to file corrected exhibits showing effects of this latest change, and to cancel the oral arguments in its case set for January 11, since the Interstate Commerce Commission does not have the latest information before it.

The third brief is filed by defending railroads in answer to a complaint of the Southern Ruralist Company, Inc., of Atlanta, Ga., attacking the 80 cents per 100 pounds rate on printing paper, other than news print, shipped from Kimberly, Wis., to Atlanta. The railroads state this one rate is also involved in the general news print rate investigation and should be settled in that investigation, now re-opened. They ask dismissal of the complaint.

Consolidated Income Tax Ruling

As the result of a decision of the Wisconsin Supreme Court, stockholders of the Consolidated Water Power and Paper Company must pay an increase of 1.56 per cent in income taxes for the year 1925. The court ruled that a proportion of untaxed earnings going into 1925 dividends had been overlooked and the assessment therefore should be increased. Stockholders contended the assessment was too high, but the assessor was sustained by the Wisconsin Tax Commission. In January, 1932, the circuit court ruled against the commission, but the Supreme Court reversed the decision and sustained the commission.

Banks Honor Paper Mill Officials

Paper manufacturers and men of allied industries figured prominently in elections held by banks of the Fox River Valley last week. F. J. Sensenbrenner, president of the Kimberly-Clark Corporation, was re-elected first vice-president of the First National Bank, Appleton, Wis. Others on the directorate are: Charles S. Boyd, president of Appleton Coated Paper Company; G. E. Buchanan, secretary of Appleton Wire Works; C. B. Clark, president of the Riverside Paper Corporation; F. J. Harwood, president of Appleton Woolen Mills; L. J. Marshall, president of Marshall Paper Company; W. C. Wing, president of the Fox River Paper Company; Judson G. Rosebush, president of Patten Paper Company, Ltd., and O. P. Schlafer, president of Schlafer Hardware Company.

S. F. Shattuck, vice-president of Kimberly-Clark Corporation, was re-elected president of the National Manufacturers Bank, Neenah, Wis. A. C. Gilbert, president of the Gilbert Paper Company, was re-elected vice-president.

The First National Bank, Neenah, Wis., re-elected C. A. Babcock, president of the Wisconsin River Paper and Pulp Company as its vice-president, and re-elected on its board of directors: J. N. Bergstrom, president of the Bergstrom Paper Company; D. K. Brown, first vice-president of the Neenah Paper Company; C. B. Clark, president of the Riverside Paper Corporation; F. J. Sensenbrenner, president, and Ernst Mahler, vice-president, of the Kimberly-Clark Corporation, and James C. Kimberly, president of the Neenah Paper Company.

Ask Decrease in Pulp Board Duty

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., January 18, 1933—The application of the Certain-Teed Products Corporation of New York City for a decrease in duty on pulpboard in rolls for use in the manufacture of wall board has been reinstated on the docket of the United States Tariff Commission, it has been officially announced.

This application was withdrawn on January 5, 1932, but it has now been reinstated at the request of the applicants.

Maryland Paperboard Co. Taken Over

The Elk Paper Manufacturing Company, a Maryland corporation, took over the Maryland Paperboard Company property on October 5, 1932, and after making decided improvements, now has the plant in production, manufacturing a complete line of imitation parchment papers, sulphite wrappings, and wax papers. The geographical location of the Elk Paper Manufacturing Company makes their mill ideal for the southern territory as well as the Philadelphia, New York, New England, and Middle Western territory.

The plant of the Elk Paper Manufacturing Company is modern in every respect. The power plant consists of three 500 h.p. high pressure water tube boilers and one Westinghouse steam turbine of adequate size to run the entire plant. The paper mill consists of three paper machines, a Harper Fourdrinier with a 90-inch trim, a Straight Fourdrinier with a 96-inch trim, and a 6-cylinder board machine with 61 driers, part of these are arranged 3 tier. The board machine will be in operation about June 1, 1933, and will make a specialty of manufacturing fire proof papers and boards and the converting and graining will all be done by the company at their mill. The wax equipment includes a modern and up-to-the-minute outfit complete with refrigerating unit and a wax machine that will trim 88 inches of paper.

The active officers of the company are Louis S. Zimmerman, vice-president of the Maryland Trust Company, president; George P. Zouck, president of the Consolidated Engineering Company, of Baltimore, vice-president; G. Harvey Porter, vice-president of the Industrial Corporation of Baltimore, treasurer; W. G. Leimbach, of W. G. Leimbach & Co. of Baltimore, secretary. The rest of the directors are Frank P. Bell, of the Westinghouse Electric and Manufacturing Company; George H. Dashiells; and William A. Cohen, president of William A. Cohen & Co., Baltimore. O. R. Emigh is the general manager of the company, having full and complete charge of the operating and selling end of the business. Raymond Workman, formerly of the Western mills, is the general superintendent and production manager. Roy E. Bare is the chemist. W. Page Selby is the auditor. W. T. Cochran, general sales manager; and Carroll T. Gardner, assistant sales manager. The general offices of the company are located at Childs, Maryland.

The papers being manufactured by this paper mill are meeting with favor in the trade and the company has several contracts which have been executed with large jobbers of the eastern section of the country to act as exclusive distributors.

Reforestation Program Curtailed

[FROM OUR REGULAR CORRESPONDENT]

ALBANY, N. Y., January 14, 1933—Announcement is made by the Conservation Department that the only curtailment in the reforestation program of the state for this year will be the elimination of the annual appropriation for aid in promoting reforestation projects in the various counties. It was explained that state aid to counties has not been sponsored for reasons of economy and also because many counties have decided to abandon reforestation projects this year. Reports that the general reforestation program of the state had been curtailed were branded as having no foundation by the department. An amendment was adopted in 1931 appropriating $1,200,000 for the purchase and reforestation of idle farm lands which will be included in the budget submitted by the department to the Legislature.

Problems of News Print Industry Discussed

Sir Herbert Holt States That Difficulties Have Been Enhanced by Extreme Competitive Measures—Expresses View That Provincial Governments Must Take Steps to Conserve Natural Resources and to Prevent Collapse of Canadian Industry.

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., January 16, 1933—Sir Herbert Holt, who has been a prominent figure in connection with the Canadian Pulp and paper industry for many years, made some outspoken remarks in regard to the industry in speaking in his capacity as president of the Royal Bank of Canada, at the annual meeting of the shareholders of that institution in Montreal during the past week. He said:

"Probably no major industry in Canada, save railways and agriculture, has suffered more from the drastic decline in consumption than the Canadian news print industry, with the result that the mills find themselves with productive capacity far in excess of present-day requirements.

"The difficulties in the industry have been materially enhanced by extreme and unjustly competitive methods, which have resulted in the burdens due to lower consumption bearing more heavily on some plants than on others.

"The view which is still expressed that high-cost producers should be eliminated and capital structures pared down, can now be regarded as almost meaningless. In substance, this adjustment has already taken place and high-cost mills are not now operating.

"In spite of drastic economies, the industry now faces the difficulty of covering its actual operating expenses, before provision for any interest or depreciation. In these circumstances, a continuation of price-cutting methods is not in the interests of the people of this country, particularly the workers in our woods and mills, and if the strong efforts that are being made to secure co-operation are not successful, Provincial Governments must take steps to conserve Canadian natural resources, and to prevent the collapse of this vitally important industry."

Industry a Political Issue

For some time past the state of the pulp and paper industry has been a political issue in the province of Quebec. This became apparent once more this week, when at the session of the Provincial Legislature, Maurice Duplessis, the leader of the Opposition attacked the Government on the subject, declaring it had been directly responsible for the over-expansion of the news print industry.

"I make the statement and I know that it cannot be successfully challenged," Mr. Duplessis said, "that if you compute the production of the pulp and paper mills, whose construction the Government forced, and add to it the production which the mills were turning out by illegally working on Sundays, then you will have at least 65 per cent of the over-production from which the news print industry is suffering.

"The Government," he contended, "should have had foresight. It claims great wisdom. It took all the credit to itself while times were good. Now it should be forced to accept responsibility for its blunders when times are bad. It ignored what is a basic principle: that you should not establish even a town around one industry alone."

Eddy News Print Mill Resumes Full Operation

From Hull, Que., it is announced that the big news print mill of the E. B. Eddy Company, Ltd., will resume full operation at the end of the present month, after being on half-time operation for two years.

Large contracts recently entered into with several United States publications will bring up the operations to about 30,000 tons a year, the capacity output of the mill.

Business Better Than Expected

Lawrence W. Killam, president of the British Columbia Pulp and Paper Company, is reported in an interview as stating that business with his firm has been better than was anticipated. Demand for pulp is nothing to get excited about, he points out, but it has been sufficient to keep both mills operated by the company fairly busy.

When Mr. Killam re-opened the Woodfibre plant three months ago after a lengthy shutdown, philanthropy played a part in the decision. The company wanted to keep the mill going to keep its employees engaged during the winter months, but at the time the mill was reopened Mr. Killam felt that it would probably have to be shut down again after a month or six weeks. However, that was three months ago and the mill is still running. The Port Alice mill was reopened a few weeks later for an indefinite period which company officials felt might not be more than a month or so. At present, Mr. Killam says, there is no likelihood of an early shutdown. There have been sufficient orders to keep both mills in steady operation.

Oscar Jorgenson, secretary of British Columbia Pulp and Paper Company, is still in the Orient scouting for business. Merger of several large Japanese mills delayed his return, as he was anxious to see what changes in the pulp situation would result from the consolidation. Mr. Jorgenson has extended his tour into China.

"The chief difficulty in the pulp business at present," said Mr. Killam, "is that no one, with the exception of British interests, is buying pulp on contract. Most of the buyers are working on a hand-to-mouth basis, afraid that if they buy too far in advance they will lose through subsequent recession in prices."

The United Kingdom was regarded as a valued market for British Columbia pulp until Britain abandoned the gold standard and was followed by Scandinavian countries, whose currency sank so low that competition from this country became impossible.

Rosin and Stability of Sulphite Fibers

In a paper-making study at the Bureau of Standards of two kinds of bond paper sulphite fibers, it was found that the rosin-sized papers were of higher stability toward the heat test than unsized papers of corresponding acidity. This was contrary to previous findings with more highly purified fibers and rather surprising in view of the belief commonly held that rosin always exerts a deteriorative effect on paper fibers. Recently these papers were retested after more than a year's normal aging. Normal aging likewise indicated that the rosin-sized papers were more stable than the unsized papers. For example, one paper which was sized with 2 per cent rosin and had a pH value of 4.0 decreased 15 per cent in folding endurance. The unsized paper of corresponding pH value had decreased 30 per cent. This indicates that in this case the rosin exerted a protective effect upon these sulphite papers which more than counteracted any deteriorative effect it may have had.

Philadelphia Paper Market Trend Irregular

Demand for Various Standard Grades of Paper Proves Disappointing, With Result That Competition for Desirable Business Is Intensified, Both In Coarse and Fine Paper Departments—Conditions In Paper Stock Section Practically Unchanged

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., January 16, 1933.—The first full business week of the New Year—and the adjective is to be applied rather to an elapse than trade conditions—was certainly vivid in the contrasts it afforded. While in relationship to consumers, the jobbers enjoyed or perhaps suffered a very quiet week bordering on dullness—there was very much activity in their relationships to each other. More than at any time in the last half decade there is coming to all the realization that the good of each is dependent on all and the good of all on each; for that reason movements were either active or actively planned to enable, so far as present conditions make it possible, consolidation of ground and the occupation of firmer territory. There are some who believe the situation as it exists, particularly in the printing industry the largest consumer there is hope at least approaching the critical, but others in full realization of conditions are not merely hopeful but actually are confident that such a situation may be brought about mutually beneficial to the distributors and to their customers.

Of actual business, there is little to be said. Demand was disappointingly quiet with the result that competition to secure desirable business was intensified, and it is the general plaint of individual houses that the others are endeavoring to get orders without regard to profit or even cost of handling. While hitherto this competitive activity has been very largely in the coarse paper, its painful influences are more and more permeating the fine paper field.

In the paper stock market, conditions remain virtually as a week before with quotations unchanged because of small quantities of stock coming in rather than because of mill demand. The flurry of a week ago with some softening of price seems to have passed by, and while price levels are by no means firm they at least are steady.

Paper Trade Association Meets

Outstanding among the favorable developments of the week was the very well attended meeting of the Paper Trade Association in the Bullitt Building and the very interesting discussion which took place there was concerned almost entirely with certain phases of distribution. Specifically, members have more to say about the evils of direct selling by mills to consumers than on any other topic. There was by no means a universal condemnation of all direct selling because there was a realization of the fact that under certain conditions, it being trade hope, however, that conditions might become more and more restricted after full consideration by both parties at interest, direct selling was probably unavoidable. And there was virtual consensus of opinion that the doors were opening farther all the time and that it was of mutual advantage to mills as well as their distributors to have a clear understanding of the situation and in a spirit of good will such an adjustment or readjustment as would best serve the interests of both. The Association decided to secure from each member house a formal expression of its point of view and to forward these statements through President William A. Hentz to the National Paper Trade Association's headquarters.

A discussion of overhead in order that every house might at least have clearly defined the full cost of all the elements entering into it had been scheduled for the meeting, but the other subject took preference. Nomination of officers resulted in the re-naming for the second year of those who had served in the past; these being William Hentz, of the D. L. Ward Company, president; Butler Smythe, of the J. L. N. Smythe Company, vice-president; Edward A. Keller, Garrett-Buchanan Company, secretary, and William Christine, treasurer. President Hentz was authorized to appoint delegates to represent the Philadelphia Association to the national body.

Paper and Cordage Group to Reorganize

Frederick S. Balch, vice-president and treasurer of the Schuylkill Paper Company, asked that each member of the association interest himself in the pending reorganization of the Philadelphia Paper and Cordage Association, Inc. While this organization has been in existence for some time there is the very pleasant realization that its fullest possibilities have not been achieved and for that purpose the meeting to reorganize under a plan of extended activity is to be held on Friday noon in the Bullitt Building. Those interested in the revivifying of the association say that during the several years of its existence, the association has filled an important function but that conditions have changed and still are changing and, therefore, the association is reorganizing and renewing itself to cope with the trend of the times.

It is pointed out that the association does not attempt to regulate policies or place restriction on prices or other matters of sales policy but that it is believed a closer friendship and cooperation of the men actively engaged in the sale of all paper and cordage products make possible much cleaner competition and more wholesome conditions throughout these fields, and that in addition a better understanding and good fellowship brought about by their associations are desirable as well as enjoyable. The only cost is $5.00 annual dues, paid by member houses to cover mailing expenses and incidental costs—payment of which entitles anyone connected with the member house to participate in and to benefit from all the activities of the association. Mr. Balch and Stanleigh C. Brower, of the J. L. N. Smythe Company, are among those active in the reorganization project.

Paper and Bag Institute Active

The Paper and Bag Institute of Philadelphia has also been active with the result that announcement is made in its circular that at last the annual banquet will be held March 1. The announcement further says that cooperation of the manufacturers who sell the Philadelphia market has been assured, and that members of the committee in charge are vieing with each other to make the event one of importance in the annals of the Philadelphia trade. Under the chairmanship of Nathan Isen a symposium was held at the meeting Wednesday night last, on the trade prospects, the keynote of all the suggestions made was conservatism for the New Year.

Throughout the opinions advanced, there ran the com-

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Ontario Paper Manufacturers More Optimistic

With Stocks At Wholesale Paper Merchants' Warehouses Low, Some Consumers Have Already Started to Replenish Their Supplies—Fine Paper Mills Experience Spurt In Business—Many Small Sized Orders Placed for Bond, Writing and Ledger Papers

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., January 16, 1933.—Although a little early to judge the trend of business in both wholesale and manufacturing paper circles the fact remains that the trade generally is quite well satisfied with the manner in which the new year is opening up. It is known that neither the consumer nor the wholesaler have stocks on hand and not a few of these have already started to replenish their supplies, although very cautiously. One sales manager of one of the leading paper companies declared his belief that the paper business was all ready to come back with a rush. Stationers, printers, book binders and office supply houses are bound to be in the market shortly for forms and other similar paper lines and many orders of small size have already been placed with paper houses for bonds, writings and ledger papers. Most paper men believe that it will only be a matter of a few weeks when a general buying movement sets in for fine papers. Mills in the meantime, in many cases, have been closed down for a short period over the Chirstmas season, making repairs and renovations and getting the plants in readiness for good business when it comes. Most of the fine paper manufacturers express themselves as well satisfied with the January spurt in business, although there is not so much to be thankful for in the coarse paper section, which is still draggy. In the light weight paper field business has opened up well, according to one leading Ontario manufacturer, orders having come in since the year opened much better than at the beginning of 1932.

Want Manitoba Mill Re-opened

Seeking re-opening of the Manitoba Paper Company mill at Pine Falls, a delegation from Winnipeg that included the Hon. J. S. McDiarmid, Minister of Mines and Natural Resources, this week interviewed G. T. Clarkson, in Toronto, Receiver of the Abitibi Power and Paper Company parent concern. They urged upon Mr. Clarkson the pressing need to re-open the mill. Mr. Clarkson said he would take the matter under advisement, but would not be able to make a definite statement for some time until conditions had been studied. He declined to say anything as to the nature of these conditions referred to. The mill at Pine Falls was closed on February 24, 1932.

Dryden Paper Chalks Up Deficit

After taking care of senior charges, but before providing for income tax and depreciation, profit and loss account of Dryden Paper Company, with mills at Dryden, Ont., shows a loss of $48,258 in the year ended September 30, 1932. This compares with a surplus, on the same basis, of $5,311 in the preceding year. The payment of premium on American funds last year contributed $13,287 toward the deficit. Gross operating income amounted to $56,995, compared with $77,940 in the previous year. Miscellaneous income in 1932 amounted to $12,384, making a total revenue of $69,379. In the 1931 fiscal year miscellaneous revenue totalled $17,371, bringing income up to $95,311. In discussing the outlook for the current year, J. H. A. Acer, president, said that he could see no immediate prospect of better business conditions.

Provincial In Good Liquid Position

Early in February Provincial Paper, Ltd., will present an annual report which is expected to show its liquid strength to have been well maintained in 1932 and its earnings to have been comparatively satisfactory in view of the lower volume of business and the decline in prices of fine paper during the course of the year. It is impossible to state exactly what will be shown as earned on the preferred stock until depreciation and various reserves have been written off and inventories revalued as of December 31, 1932. In view of conservative management in the past, the fact that dividends at the full rate of 7 per cent have been paid regularly throughout the depression and that in all probability the next dividend will be paid as well, leads to hopefulness on the part of investors that the report, when it comes, will show the company's earnings not to have fallen short of requirements and that dividends have been paid without essential sacrifice of current strength, to say the least.

One item that needs to be taken into consideration, however, is that the entire issue of common stock is held by the Abitibi Power and Paper Company, which is now in the hands of a receiver and for which a trustee has been appointed. The old management of Abitibi still continues and two of the officers are on the directorate of Provincial Paper. The last balance sheet showed no other intercompany items and it is understood that there has been no change during 1932 as a result of Abitibi's receivership. The question suggests itself whether the common stock control may be considered a distinctly realizable asset by the receiver if he needs money for Abitibi purposes. It is stated that there has been no interference with the conduct of Provincial Paper as the result of Abitibi's troubles. So long as Abitibi Power and Paper Company is in the hands of a receiver the possibility of control of Provincial Paper going elsewhere can not be laid aside but only in the case of Abitibi being destined for a wholesale merger under the Beauty plan being formed is such an eventuality likely to be considered. Dropping preferred dividends would give the company another $245,000.

Harold Smith Goes to Montreal

Harold Smith, formerly of the Canadian Paperboard Company, Toronto, now closed down, has gone to Montreal as representative of the Gerald T. Shipman Company, selling agents for the output of Beaver Wood Fibre Company, Thorold, and the Bathhurst Pulp and Paper Company. Temporary offices have been opened in the new Birks Building in Montreal from which sales in the eastern territory will be directed.

Notes and Jottings of the Trade

J. F. Fitzgerald, of the St. Maurice Valley Paper Company, Montreal, was a recent business visitor in Toronto.

A business visitor to Toronto just now is Elmer Herb, son of the president of the Westminster Paper Mills, Ltd., Westminster, B. C., and in charge of the company's sales.

H. S. Ramsay, Winnipeg representative of the Howard Smith Paper Mills, spent a few days of last week in Toronto.

Chicago Paper Market Position Little Changed

While Prevailing Sentiment Is Somewhat Better, Definite Actual Improvement Is Wanting—Fine Paper Section Listless, Although Outlook Is Not Discouraging — News Print and Ground Wood Papers Exhibit Slightly Stronger Undertone

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., January 16, 1933—Sales offices in the Chicago territory report prospects of some new lines of paper, expected to constitute the backbone of a "big sales push" which is already getting under way. This "push" is going ahead, say reports, because the majority of the manufacturers and sales outlets feel that the basis for improvement has been laid and that prospects for 1933 are considerably better than for the year just past. Chicago offices, naturally, are deeply interested in the paper exhibit for the Century of Progress Exposition and feel that it will have a real effect in stimulating paper consumption and in acquainting the average citizen with the true importance of the paper industry.

The markets themselves show improvement only from a mental standpoint, reports would indicate. Actual improvement is not forthcoming though sentiment is somewhat improved. The fine paper market is slow though said to be "not discouraging." Prices are fairly steady. Ground woods show a slightly stronger tone in company with news print. The kraft market is none too steady, prices bumping around the lows of 1932. Book papers are expected to improve somewhat due to the new specifications program. Paper board continues rather favorably though with not as spectacular an improvement, according to reports, as was noted early in the Fall of 1932. Tissues are slow. Waste papers are inactive, for the most part.

C. W. Markham Addresses Paper Merchants

C. W. Markham, local sales manager of the A. P. W. Paper Company, is to address a meeting of the Chicago Paper Association on Tuesday evening, January 24, at which time he will present the final details of the friendly agreement between the manufacturers and the Chicago Paper Association as to local conditions and methods in the marketing of tissues, toilet papers, etc. The agreement grew out of a meeting of seven representatives of the association and eleven representatives of manufacturers, which was held at the office of the Hanchett Paper Company on January 4. The Association also reports that further details concerning the program will have to be presented to various manufacturers and the January 24 meeting is expected to bring a final meeting of minds between the jobbers and manufacturers. The discussion revolves around a reported practice of selling merchandise indiscriminately to janitor supply houses, retail stores, etc., in a way that is detrimental to the legitimate jobbers of all grades and sizes of paper who handle the same lines.

M. A. McNulty, of the McNulty Paper and Twine Company, presided at the January 10 meeting of the Chicago Paper Association at the Bismarck Hotel at which time the previous discussion between jobbers and manufacturers was reported on. Members who heard the report expressed their gratification at the progress that had been made and gave the matter their wholehearted support. Mr. McNulty presided as vice-president in charge of the Industrial Division of the Association.

Paper Salesmen's Activities

Reports from the Middle Western Division of the Salesmen's Association of the Paper Industry indicate that salesmen in this territory will again be boosting Harold Knott, Eastern Paper Company, for a third term as president of the association. At least, there are plenty of rumors to that effect. It is pointed out that Mr. Knott is the representative of the salesmen on the board of governors of the newly created Paper Foundation and that, inasmuch as this job will not be wound up at least until Spring, he should be urged to carry on this work as well as continue his leadership in other matters as he has done so well in the past. As to the program at the annual SAPI luncheon in New York City, reports indicate that the selection of the speaker will be in the hands of the Eastern Division, although a very representative delegation from Chicago is expected to be on hand, despite depressions, etc.

News of the Trade

The paper trade in Chicago is represented in the executive roster of the Chicago Graphic Arts Council, formed recently to promote a closer relationship between various units deriving income from printing and related industries, by Jack Hillyer, of the Whitaker Paper Company, who is vice-chairman and chairman of the paper merchants credit group of the new Council.

Through the Gaw-O'Hara Envelope Company, well known Chicago envelope manufacturers, the Claremont Paper Company is distributing an interesting folder to envelope buyers in this market describing the workability of Claremont Kraft. The direct mail piece is printed on Claremont Envelope Kraft, substance 28 and was mailed in a Claremont envelope. The advertising message features a tough kraft that "can really be dressed up." Small drawings are used to put over the message that Claremont Kraft "prints well"; "looks well" and "wears well."

The Calumet Ben Franklin Club is congratulating itself on its successful efforts to get paper merchants in Chicago to lift restrictions covering free deliveries which had placed a delivery charge on all deliveries outside of the 79th street area. The majority of the manufacturers are reported to have acceded to the demand for free delivery and are either prepaying deliveries via motor transport or providing their own deliveries without charge.

James E. Cavanagh, general paper merchant, has removed his offices from 325 West Huron street to 228 North La Salle street, where he will be glad to welcome his many friends.

Finch, Pruyn & Co. Elects

[FROM OUR REGULAR CORRESPONDENT]

GLENS FALLS, N. Y., January 16, 1933—A number of concerns connected with the paper industry have elected officers and directors for the year. Officers elected by Finch, Pruyn & Co., include Maurice Hoopes, president; Louis F. Hyde, vice-president; Fred B. Chapman, treasurer, and George N. Ostrander, secretary. The officers, with Byron J. Lapham and Louis P. Brown will comprise the board of directors.

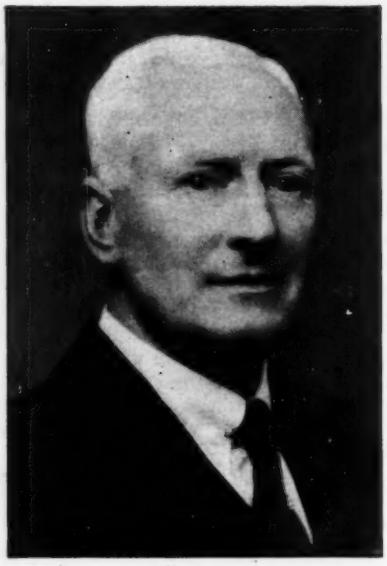
The American Machinery and Engineering Works elected the following officers for the year: Harold D. Wells, president; V. H. Wells, secretary and treasurer; Herman C. Rohde, vice-president, and James McPhillips, attorney. The officers will also serve as directors.

Obituary

John Drysdale Robb

The death of John Drysdale Robb, sales manager, Dominion Engineering Works, in Lachine on December 24, came as a great shock to his many friends throughout Canada and the United States. Mr. Robb was born 48 years ago in Edinburgh, Scotland. After graduating from George Watson's College in Edinburgh, Mr. Robb studied paper making under his father, who survives him, and who is at present chief engineer of the Kinleith Paper Mills at Currie, Midlothian, Scotland. He later studied paper making at the City and Guilds of London Institute, receiving their diploma.

Mr. Robb was connected with James Bertram & Sons, of Leith Walk Foundry, Edinburgh. He also served for



JOHN DRYSDALE ROBB

a time with James Milne & Son. He later became London and European representative of Bertram's Ltd., of Sciennes, Edinburgh. He was sent to Japan for the latter company to supervise the erection and starting of a new paper mill.

Mr. Robb remained in Japan to manage a mill there, later commencing operations on his own behalf as paper mill engineer, also as representative of several British concerns dealing in paper mill equipment. Mr. Robb lost everything in the Japanese earthquake of 1923, he and his family narrowly escaping with their lives. Backed by a world wide experience in paper making, Mr. Robb came to Canada after the earthquake and was connected with Dominion Engineering Works until his death.

He was a member of the Engineers' Club, Montreal, Technical Association of the Pulp and Paper Industry, Summerlea Golf Club, Lanthier Fishing Club, and was a Royal Arch Mason, belonging to Canongate Kilwining Lodge, No. 56, Edinburgh.

In addition to his father, Mr. Robb is survived by two brothers, Douglass and William of Scotland, his wife, formerly Janet Walker, and by three sons, Peter, Douglass and Kenneth. The funeral took place on December 27.

George R. Gray

TORONTO, Ont., January 16, 1933.—The death took place a few days ago at Sault Ste. Marie, Ont., of George Reginald Gray, vice-president of the Abitibi Power and Paper Company, at the age of 68 years. The death of Mr. Gray removes a one-time national figure. For seventeen years he was champion 16-pound shot-putter of Canada and the United States, and became world champion when, in 1888, he won the English title at Crewe and Huddersfield, and the Irish title at Ballsbridge, Dublin. Mr. Gray was born at Coldwater, Ont., in 1865 and was educated in Orillia schools, following which he went into the lumber business. He started at Sudbury, 1890-1892. In 1901 he was one of the organizers of the Spanish River Pulp and Paper Company, which was afterwards taken over by Spanish River. For twenty years he was manager and director of the woods operations for the company, until 1922 when he was appointed vice-president. When the company was absorbed by Abitibi he was made a director and in 1928, vice-president. He also had been president of the Manitoba Paper Company and of the Kaministiquia Power Company, while he held directorates in other commercial projects. Twice married, he is survived by his widow.

Edward H. Kellogg

[FROM OUR REGULAR CORRESPONDENT]

PITTSBURGH, Pa., January 16, 1933.—Edward H. Kellogg, aged 40, general sales manager of the Mine Safety Appliance Company, of this city, and a captain in the chemical warfare service overseas during the World War, was buried January 12 in Arlington Cemetery, Washington, D. C., with full military honors. He died Monday night, January 9, in his home, 5535 Kamin Road, Squirrel Hill. Funeral services were conducted in the T. B. Moreland Chapel by members of the American Legion.

Mr. Kellogg was born in Russell, Kan., and was a graduate of Kansas State College, class of 1911. He specialized in chemistry and served with the Department of Agriculture at Washington before going overseas during the war. He was with the Brown Company in a research capacity at Berlin, N. H. and LaTuque, Quebec, in 1919, and in 1921 was with the Bureau of Standards in Washington carrying out the investigation made by that Bureau of the possibility of using flax as a paper-making material. Thereafter, he went with the Mine Safety Appliances Company in Pittsburgh.

He was a member of the American Legion, the American Chemical Society and the American Society of Safety Engineers, a Division of the National Safety Council. He was a major in the officers reserve corps, chemical warfare service, at the time of his death.

Mr. Kellogg leaves his widow, Mrs. Isabelle Little Kellogg; a son, Edward Kellogg, Jr.; a brother, R. S. Kellogg, secretary of the News Print Service Bureau, of New York, and a sister, Ruth M. Kellogg, of Chicago.

Charles Vose

BOSTON, Mass., January 16, 1933.—Charles Vose, more than half a century in the paper business and chairman of the board of directors of the Hollingsworth & Vose Company. paper manufacturers, died yesterday at the residence of his son, Louis E. Vose, East Walpole. Mr. Vose was 84 years old and had been retired from active business for several years except for the board chairmanship.

Mr. Vose was born in Milton on April 24, 1849, the son of Joshua Whiting Vose and Mary Ann (Ellis) Vose. He married Mary A. B. Hersey in Boston, who died in 1929. He started in the paper business in 1867 with the B. H. Thayer Company of Boston. Through that concern he became associated with Z. T. Hollingsworth in 1875 and formed the Hollingsworth & Vose Company

At the present time this organization is represented by the third generation of both families. Mr. Vose is survived by a daughter, Mrs. J. B. Huntoon, of Milton, Mass., with whom he had previously lived; two sons, Louis E. Vose of East Walpole, and Charles Vose, Jr., of Milldale, Conn., and five grandchildren.

George E. Riegel

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., January 16, 1933.—George E. Riegel, retired head of the former long established paper house of Riegel & Co., Inc., which a number of years ago was taken over by the Paper Merchants, 140 North 6th street, was laid to rest on Friday, January 13, in the home of his forebears, Riegelsville, Pa. Mr. Riegel died in the Polyclinic Hospital, New York. For years he had made his home in Overbrook, Philadelphia, but recently removed to Pelham, New York. He is survived by his wife, the former Miss Irma Deremeaux; and two sisters, Miss Ida J. Riegel, of Riegelsville, Pa., and Mrs. Chester P. Cook, of Merion. Mr. Riegel was 53 years of age and was the son of John L. Riegel, founder of the Warren Manufacturing Company, whose mills are now conducted under the ownership of the Riegel Corporation. Years ago he established the jobbing house of Riegel & Co., active management of which, however, was in charge of Arthur B. Sherrill. The business was conducted for a number of years at 16 South 6th street, and finally at 140 North 6th street, but in 1929 the business was sold to the Paper Merchants, headed by W. Predmore, who had long been connected with Riegel & Co. in a financial capacity. Mr. Predmore, together with J. G. Seckel, vice-president of the Paper Merchants and E. J. Irwin, a member of the sales organization, represented the firm at the funeral services. Mr. Sherrill is now engaged in the paper brokerage business, and was among the representatives of the paper trade attending the services.

Willard S. Paden

[FROM OUR REGULAR CORRESPONDENT]

BIG RAPIDS, Mich., January 16, 1933.—Willard S. Paden, vice-president of the Covel-Hanchett Company of this city, who had been associated with the company for nearly seventeen years and before that for several years with one of the company's associate factories, the Covel Manufacturing Company, Benton Harbor, Mich., died of pneumonia on New Year's Day. If he had lived until January 23, he would have been 68 years old. He was in the machinery sales business the greater part of his business life and was well known to practically all machinery manufacturing or sales concerns.

Superintendents to Meet at Springfield

The Connecticut Valley Division of the American Pulp and Paper Mill Superintendents Association will meet Saturday, January 28 at 6:30 o'clock at the Hotel Clinton, Springfield, Mass. Turkey and all the fixings will be served at $1.50 per person.

The usual program of having papers read on various subjects will be changed. After a short business meeting, a Question Box will be conducted. The plan of the Question Box is to have all the members present one or more questions at this meeting. It is hoped that each person will write out one or more questions and present them at the meeting on the blanks furnished for this purpose. All those who contemplate attending the meeting are urged to inform the committee in advance to this effect as this will help in the arrangements.

PAPER REVIEW FOR 1932

(Continued from page 11)

ing the past decade, marketing conditions have reached a point where methods and costs of distribution constitute the major problem to be solved. This does not mean that new equipment will not continue to be installed or that industry from a production viewpoint will not change—that would be stagnation. The productive equipment will undoubtedly continue to be changed and improved and regional competition will make it necessary to keep plants, equipment and methods thoroughly modern. But industry will not add new capacity merely to keep pace with an ever growing demand, as in other years, because there is already too great a surplus of productive capacity. At the rate of production growth between 1925 and 1931 it is estimated that it would take the industry until about 1941 to absorb the present surplus capacity.

The high rate of population increase in the United States in past years made it possible for an industry to experience a growth in demand merely as a result of a normal population increase, but those days have departed. Our population is increasing, of course, but the rate of increase is becoming smaller, which means that the market boundaries are narrowing and competition will become keener.

Adherence to Trade Customs Indispensable

The intensity of competition may abate somewhat with any substantial improvement in general business but the competition for markets will be much keener in the years to come, than in the past. The paper industry has also witnessed unusual shifts in the production between various grades in the past few years. The other fellow's field always seems greener and manufacturers in one grade have shifted into another on the supposition that there was more profit there, only to find that the result of that action was a landslide of cut prices. A more complete knowledge of the market and the adaptability of the product to the needs of the market, along with the adherence to a reasonable set of trade customs which will put competition on a more honest basis—are indispensable to profitable marketing.

Operations in some grades of paper maintained a higher degree of stability than did others, in the face of fluctuations in general business. The book, writing and cover grades experienced a relatively greater downward fluctuation in the rate of operation than was the case in the board, bag and wrapping grades. The first mentioned group are co-related with advertising and as a result fluctuate in sympathy with changes in advertising and general business while the other group, of coarser papers are co-related with commodities which are staples and do not fluctuate so sharply with changes in business. In the case of paper board it must be remembered also that this industry was in difficulty long before the depression set in and a great many of its troubles have been ironed out.

A general review indicates that the paper industry has suffered from the depression but quite fortunately not to the same extent that most other major industries have. Payrolls, employment, rate of operation, and prices, they have been depressed, but are still on a relatively higher level than the average for all other industries. Realization of the seriousness of the industry's problems has also stimulated a higher degree of cooperation among members of many sections of the industry.

Gulf States Mill Resumes

TUSCALOOSA, Ala., January 8, 1933—Full time operations of the Gulf States Paper Corporation will be resumed Monday morning after the usual temporary suspension of activities due to the holidays, officials announced Saturday.

New York Trade Jottings

P. M. Loddengaard, who recently joined the purchasing department of the Robert Gair Company, New York, is spending a short vacation in Florida.

* * *

Consolidated Paper Company, whose business is reported to be expanding, have leased a one-story factory building at 380 Flushing Avenue, Brooklyn, N. Y.

* * *

Floyd M. Carlisle, president of the St. Regis Paper Company, of 60 East 42nd street, New York, has been elected to the governing board of the Edison Electric Institute, a new trade association of the electric light and power industry.

* * *

There was an excellent attendance at the regular weekly luncheon and meeting of the Eastern Division of the Salesmen's Association of the Paper Industry, held on Monday last at the Hotel Roosevelt Grill. Carl E. Whitney, of Wise, Whitney & Parker, who was the guest speaker, discussed "Depreciated Currency Legislation" in an interesting and informative manner and was accorded a rising vote of thanks at the close of his address.

* * *

Royal Card and Paper Company, of 210-216 Eleventh avenue, New York, have installed a complete plant for the manufacture of announcement sets, paneled invitations, cards and folders. This line will be made up of staple items and a great many produced from their own decorative papers. Envelopes to match will be available for all items. It is planned to distribute this line nationally through paper houses in the various printing centers. A series of sample books are now being prepared.

TAPPI Notes

The annual meeting of TAPPI this year will be a four day convention, February 13 to 16 inclusive. This is the first year that the meeting has begun on Monday. On Monday there will be four important meetings dealing with fibrous raw materials, paper coating, heat and power distribution and vocational education. The expanding interests of TAPPI together with the desire to improve the annual meeting has led to the decision to have a four day rather than a three day convention.

George C. MacNaughton, formerly connected with the Mead Corporation and more recently the pulp and paper laboratory of the Georgia Forestry and Geological Development Department has taken a position as superintendent for the Everett Pulp and Paper Company, Everett, Wash.

Elmer S. Hinman, formerly technical director and pulp mill superintendent of the P. H. Glatfelter Paper Company, has resigned this position to establish an independent laboratory and consultation service at Spring Grove, Pa. Mr. Hinman will specialize in process control, bleaching problems, white water surveys, deinking of old papers and general analysis.

Thomas J. Keenan recently sent greetings from Schierke in the German Harz Mountains where he is enjoying a long needed vacation.

T. M. Barry, Assistant to President

T. M. Barry, formerly assistant general superintendent of Fraser Paper, Limited, Madawaska, Maine and Donald A. Fraser, formerly head of the Standards Department, Edmundston, N. B. have been appointed to the position of assistant to the president of Fraser Companies, Limited, headquarters at Edmundston, N. B.

Boston Paper Market Quiet

BOSTON, Mass., January 16, 1933—Slightly more activity has developed here and there in the wholesale paper market. It is intimated in certain quarters that paper is "moving a little faster" than in previous weeks with jobbers selling in somewhat greater volume and some manufacturers disposing of odd lots at the mills. The kraft market is tending upward. Some dealers have received telegrams from manufacturers stating that prices on kraft have been withdrawn. Dealers mention a meeting of kraft manufacturers in New York last week and there are indications that quotations will be changed. Fine paper, generally, was at least fair, although somewhat spotty. Announcement of reductions in prices of several lines of fine paper has been received from the Strathmore Paper Company. The box board market continues firm.

In paper stock some contracts were placed on domestic gunny bagging for the coming year. An option on a lot up to 1,000 tons is heard of. Manila rope sales are reported, including the movement of about 70 tons of the foreign material at 1.35 @ 1.40. The general range of quotations for foreign manila rope is 1.37½ to 1.42½. Declines in some grades of paper stock are expected this week, but at the present writing changes have not been announced. A few mark-downs, however, were made. Old newspapers are now quotable at .25 @ .30, compared with a previous range of .30 @ .35. The range of No. 1 scrap burlap narrowed to .65 @ .75, against a former .60 @ .85. Scrap sisal declined to .80 from a previous price of .90. The market generally was quiet.

Bids and Awards for Government Papers

WASHINGTON, D. C., January 18, 1933.—The Government Printing Office has received the following bids for 40,000 pounds of chip board; Rogers Printing Company, .01225 cents per pound; Bartgis Brothers Company, .01375 cents less 1 per cent; Consolidated Paper Company, 2 cents; Old Dominion Paper Company, .01348 cents; R. P. Andrews Paper Company, .0134 cents; Barton, Duer & Koch Paper Company, .013345 cents; Virginia Paper Company, Inc., .013225; Whitaker Paper Company, .013095 cents; Walker Goulard Plehn Company, .013325 cents less 1 per cent; Mathes-Lamm Paper Company, .012839 cents; C. L. LaBoiteaux Company, .0135c.

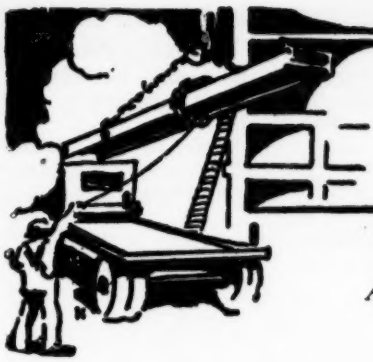
The Whitaker Paper Company has been awarded the contract for furnishing the Government Printing Office with 40,000 pounds (40,000 sheets) of No. 50, 26 x 38 chip board at $26.53 per ton and the Tarentum Paper Mills will furnish 500 sheets of 26 x 32 high finish red sulphite paper at .095 cents per pound. Bids for both of these items were received on December 30.

The Whitaker Paper Company will also furnish 10,565 sheets of 20 x 25 gummed paper at $9.77 per thousand sheets, bids for which were received on December 28.

Barton Duer & Koch Paper Company will furnish 1,080 pounds (60,000 sheets) of 21 x 32 white tissue paper at .0888 cents per pound, bids for which were received on December 21 and the same company will also furnish 3,000 sheets of 22 x 28 gray photo mount board at $43.50 per thousand, bids were received on December 14.

To Make Eaton-Dikeman Papers

The Eaton-Dikeman Company has made arrangements to have its various specialty papers, including filter, saturating and heavy absorbents, made by the Hurlbut Paper Company, South Lee, Mass.,—these papers all being made under Eaton-Dikeman supervision. The company is also doing its own converting work; the main office is at Lee, the sales office at 155 Sixth avenue, New York City.



CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

Delair, N. J.—Kieckhefer Container Company, Delair, manufacturer of paper boxes and containers, with main plant on West Canal street, Milwaukee, Wis., has asked bids on general contract for a new addition to Delair plant, to be used for storage and distributing service. Estimated cost not announced.

Wausau, Wis.—The Minnesota Mining and Manufacturing Company, 791 Forest street, St. Paul, Minn., manufacturer of sandpaper and other abrasive paper materials, has asked bids on general contract for improvements and alterations in branch plant at Wausau. Estimated cost of work has not been announced. Contract will soon be let. As previously reported in these columns, company has work under way on two top story additions to main plant at St. Paul, each two-story, about 46 x 152 feet, raising heights of Mills Nos. 2 and 39. Program is estimated to cost about $40,000, with equipment. Toltz, King & Day, Inc., Builders' Exchange Building, St. Paul, is architect and engineer. John E. Cable is secretary and treasurer.

Houston, Tex.—The International Bag Company, Inc., recently organized by E. W. Hacker and I. Redman, 4501 Stanford street, Houston, with capital of $25,000, is reported planning operation of a local paper converting plant for manufacture of paper bags and containers.

Jersey City, N. J.—Idealite, Inc., 1140 Broadway, New York, N. Y., manufacturer of parchment lamp shades and kindred parchment specialties, has concluded arrangements for purchase of four-story mill-type industrial building at 49-55 Fremont street, extending through to Florence street, Jersey City, heretofore held by Columbia Mills, Inc., New York, and will occupy for new plant for considerable increase in present capacity. Structure is on site 100 x 200 feet, and totals about 55,000 square feet of floor space. Improvements will be made and equipment installed at early date. It is said that employment will be given to more than 100 persons at new location.

Ashland, Wis.—The Marathon Paper Mills Company, Ashland, will postpone work on erection of proposed new addition to local mill, previously referred to in these columns, until a later date. As designed the unit was one-story and basement, brick and steel type. Bids were asked on general contract a few weeks ago. When work is ready to proceed, it is understood that new bids will be asked. Estimated cost of program not announced.

New York, N. Y.—The Jemco Box Company, Inc., has been organized with a capital of 200 shares of stock, no par value, to manufacture paper boxes and containers. New company will take over and succeed to the Jemco Box Company, 874 Broadway.

Pulaski, Va.—The Virginia Paper Box Company, recently organized, has begun production of new local plant in the Keister Building, First street north, and will give employment to about 30 persons in different departments. The plant has been equipped for a capacity of about 20,000 paper boxes and containers per day, and is expected to develop that output at an early date. B. Engel, head of the B. Engel Paper Box Company, 123 Sussex avenue, Newark, N. J., is president of the new company. H. A. Forncrook is plant superintendent.

New York, N. Y.—The Brown Paper Box Company, manufacturer of paper boxes and containers, has leased space in building at 179-83 Wooster street, and will occupy for local plant, including storage and distributing department.

Baring, Me.—The Eastern Pulpwood Company, Calais, Me., is said to be planning rebuilding of sawmill unit at pulpwood plant on St. Croix River, near Baring, recently destroyed by fire with loss estimated at close to $25,000, including equipment.

Kansas City, Kan.—The Sealright Company, Inc., Fairfax and Richel streets, manufacturer of paper cups and kindred products, has steel framing completed for new addition to local plant, one-story, 70 x 153 feet, and expects to have the remainder of the erection finished at early date. The structure is owned by the Union Pacific Railroad Company, Omaha, Neb., and will be occupied under long lease. It will be used for the manufacture of paper cans. Contract for roofing of new building was recently awarded to the Missouri-Kansas Roofing Company, 1807 Wyandotte street, Kansas City, Mo. New Plant unit is reported to cost about $40,000, with equipment. Company is an interest of the Oswego Falls Corporation, Fulton, N. Y.

West Springfield, Mass.—Proposed new building of the Strathmore Paper Company, Mittineague, recently referred to in these columns, will not be constructed at this time, and such work is not contemplated now, it is stated.

Buffalo, N. Y.—The Crown-Zellerbach Corporation, 343 Sansome street, San Francisco, manufacturer of paper specialties, has leased space in the Walker Building, Franklin street, Buffalo, for local headquarters and distributing service, particularly in connection with its line of paper towels, paper cups and other sanitary paper products.

Hull, Que.—The E. B. Eddy Company, Ltd., is arranging for early increase in production schedule at local mill, and will develop full time operations in all departments by close of January. The news print mill has been running on a half-time basis for close to two years past. It is proposed to run on a schedule of 30,000 tons per annum, or mill capacity, until further notice.

New Companies

Springfield, Mass.—The Carter Paper Company has been incorporated with a capital of 200 shares of stock, no par value, to manufacture and deal in paper products.

Charles L. Beckwith is president; Ernest I. Atwood, vice-president; and G. Fred Estey, 237 Chestnut street, Springfield, treasurer and representative.

Los Angeles, Cal.—Protecto Papers, Inc., has been incorporated with capital of 2500 shares of stock, no par value, to deal in special paper products. The incorporators are W. B. Wood, Long Beach, Cal.; William M. Hutchins, Beverly Hills, Cal.; and David H. Gates, Los Angeles. Company is represented by William N. Jaccard, Subway Terminal Building, Los Angeles, attorney.

New York, N. Y.—West Shore Twine and Paper Supply Corporation has been incorporated with a capital of $40,000, to deal in wrapping papers and other paper stocks, bags, containers, etc.

Bloomfield, N. J.—Henry Brady, Inc., has been incorporated with a capital of $50,000, to manufacture and deal in paper products. The incorporators are John B. Godvin and Henry Brady, 90 Thomas street, Bloomfield. Company is represented by Thomas R. Hart, Jr., 744 Broad street, Newark, N. J., attorney.

New York, N. Y.—Transparent Packaging and Printing Corporation has been incorporated with capital of $20,000, to operate a paper converting and printing plant. The incorporators include Irving Gurwick, 150 West Twenty-second street, New York; and John Smith, 1097 East 19th street, Brooklyn, N. Y. Walter K. Miller, LaGrange, Ill., is interested in the company.

Providence, R. I.—The West Dudley Paper Company has filed notice of change in capitalization from $250,000 to a nominal amount of $10,000.

Canadian Technical Meeting

The Technical Section of the Canadian Pulp and Paper Association will meet at the Engineering Institute of Canada Building, Montreal, P. Q., January 25 and 26, 1933. The program is as follows:

WEDNESDAY, JANUARY 25, 1933

Morning Session

10:00 a. m.—Business Meeting; President's Address; Chairman's Report; Reports of Committees.

11:00 a. m.—Activities of Pulp and Paper Division of Forest Products Laboratories, Dr. Jas. H. Ross.

Afternoon Session

2:15 p. m.—Paper: "Screen Classification of Pulps," Dr. H. Wyatt Johnston.

3:15 p. m.—Paper: "Drainage Time Measurements on the Sheet Machine," Dr. W. Boyd Campbell.

3:45 p. m.—Paper: "Penetration in Sulphite Cooking," R. de Montigny and Dr. O. Maass.

4:15 p. m.—Paper: "Effect of Sulphurous Acid on Sulphite Pulp," L. P. Moore and Dr. H. Hibbert.

THURSDAY, JANUARY 26, 1933

Morning Session

10:00 a. m.—Round Table Discussion on Use of Sulphite in Newsprint. Arranged and introduced by D. W. Ambridge. High Speed Operation, G. D. Bearce; Treatment of Wood Before Grinding, J. E. Patterson; Fibre Strength Aspects, Dr. H. W. Johnston; Low Sulphite, R. Collins.

1:00 p. m.—Luncheon at Ritz Carlton Hotel, Hon. H. H. Stevens, Minister of Trade and Commerce, Ottawa.

Afternoon Session

2:15 p. m.—Paper: "Acid Resisting Steel for the Sulphite Industry," C. M. Carmichael.

3:15 p. m.—Paper: "Outline of Research Problems," Dr. O. Maass.

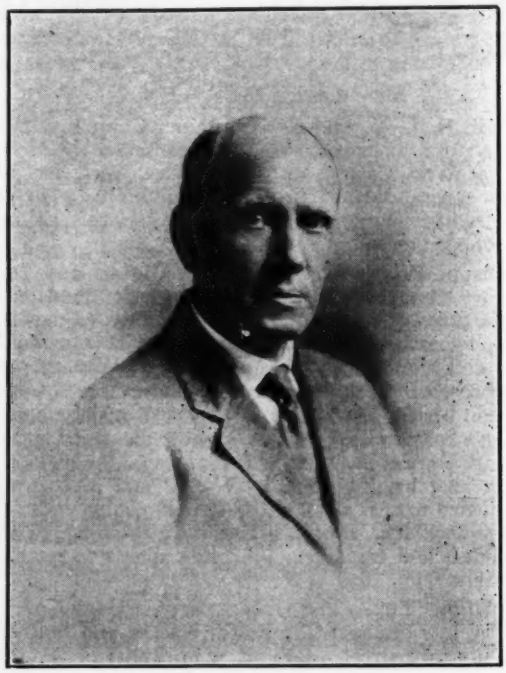
3:45 p. m.—Paper: "Five Year Review of Work of Dept. of Industrial and Cellulose Chemistry," Dr. H. Hibbert.

W. G. MacNaughton Goes to Savannah

George C. MacNaughton, who has been in charge of the pulp and paper laboratory at Savannah, Georgia, since its inception, has resigned to accept an important position with a Western paper mill.

In his place, Dr. Charles H. Herty, Research Director for the Georgia Department of Forestry and Geological Development, has selected W. G. MacNaughton, to fill this important position.

Mr. MacNaughton is very well known in the paper industry, having been secretary of the Technical Associa-



WILLIAM G. MACNAUGHTON

tion of the Pulp and Paper Industry for six years, after which he was engineer of News Print Service Bureau for two years, and for the past three years in the news print division of the manufacturing department, International Paper Company. He is a graduate of McGill University and has had a number of years of previous paper mill experience in Nekoosa-Edwards Paper Company, Port Edwards, Wis., and Inland Empire Paper Company, Spokane, Wash.

Mr. MacNaughton's intimate contacts with the research problems as well as the production of news print manufacture have fitted him extremely well for carrying out the research undertaken in the Savannah Laboratory under Dr. Herty's direction.

Now Lott-Merlin Inc.

BRIDGEPORT, Conn., January 16, 1933—The corporate name of the C. E. Dartt Company, paper distributors, has been changed to Lott-Merlin, Inc., effective January 1, 1933. Although under a new name, the company's officers and directors who have been connected with the business for the past several years will remain active in the business.

C. E. Dartt will manage the Bridgeport plant while L. T. Brown will be manager of the printing paper division of the plant here. L. D. Lott, president, and K. F. Merlin, treasurer, will remain at the Stamford office. Mr. Dartt is vice-president and Mr. Brown, secretary.

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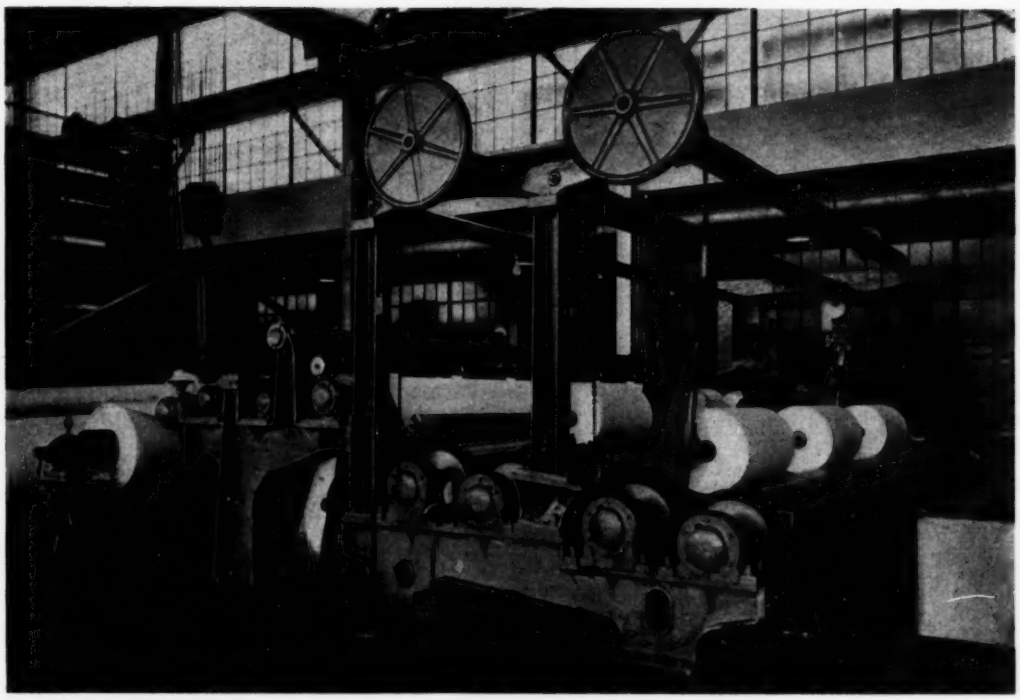

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COMING EVENTS

American Paper and Pulp Association, Fifty-Sixth Annual Convention and Meeting, Pennsylvania Hotel, New York, February 13-16. Luncheon, Thursday, February 16.

National Paper Trade Association of the United States, Convention, Pennsylvania Hotel, New York, February 13-15. Luncheon, Wednesday, February 15.

Technical Association of the Paper Industry, Convention, Pennsylvania Hotel, New York, February 13-16. Luncheons, Wednesday, February 15 and Thursday, February 16.

Salesmen's Association of the Paper Industry, Annual Meeting, Pennsylvania Hotel, New York, Tuesday, February 14. Luncheon, Tuesday, February 14.

New York Association of Dealers in Paper Mills' Supplies, Annual Banquet, Hotel Commodore, New York, Wednesday, February 14.

Canadian Pulp and Paper Association, Annual Meeting, Montreal, January 25-27.

FOREIGN PAPER TRADE

November exports of paper and paper products from the United States totalled $1,110,067, a slight decrease over the preceding month and a 37 per cent decrease over the same month last year, according to the Paper Division of the Department of Commerce. The most conspicuous increases over the preceding month were as follows: Surface coated papers, 78 per cent; toilet paper, 72 per cent; vulcanized fiber sheets, strips, rods and tubes, 50 per cent; tissue and crepe paper, 38 per cent; wallboard of paper or pulp, 18 per cent; wrapping paper and sheathing and building paper, each 10 per cent, while slight increases are shown in book paper, not coated, cover paper, paper towels and napkins, boxboard (paperboard and strawboard) and filing folders, index cards and other office forms, and slight decreases in boxes and cartons, paper bags, blotting paper, bristol and bristol boards and other paper board. The heaviest decreases over October were as follows: Papeteries (fancy writing papers), 50 per cent; news print, 35 per cent; other writing paper 33 per cent; fiber insulating lath or board, 30 per cent; greaseproof and waterproof paper, and wall paper, each 22 per cent, cash register and adding machine rolls and overissue and old newspapers, each 15 per cent; and envelopes, 13 per cent.

The heaviest increase occurred in tissue and crepe paper, as compared with a year ago, the exports of which were 65 per cent higher. Other increases on the same basis were as follows: toilet paper, 50 per cent; surface coated paper, 38 per cent; blotting paper, 15 per cent and other paper board, 8 per cent. Conversely, the heaviest decrease was registered in wallboard of paper or pulp, the exports of which in November were 85 per cent below those of a year ago, while other significant decreases were as follows: Box board, 80 per cent; wall paper, 77 per cent; cash register and adding machine rolls, 74 per cent; sheathing and building paper, 62 per cent; news print, and fiber insulating lath or board, each 58 per cent; paper bags, 54 per cent; greaseproof and waterproof paper and other writing paper, and boxes and cartons, each approximately, 50 per cent; cover paper and fancy writing paper, each 43 per cent; envelopes and overissue old newspapers, each approximately, 40 per cent; book paper, wrapping paper and paper towels and napkins, each 35 per cent; bristols and bristol boards, 21 per cent, while filing folders, index cards and other office forms showed a loss of only 15 per cent and vulcanized fiber sheets, strips, rods and tubes of 8 per cent

November exports of paper base stocks were valued at $183,577, a 25 per cent decrease over the preceding month and a 35 per cent decrease over a year ago. Exports of pulpwoods were valued at $8,059, an increase of 16 per cent over those of a year ago, but a 22 per cent decrease compared with the preceding month, while those of sulphite wood pulp disclosed a diminution of $91,979 contrasted with November, 1931, and of $48,969 contrasted with the preceding month. Exports of soda wood pulp recorded an increase of 20 per cent when compared with the same month last year, but a 77 per cent decrease over October, while those of rags and other paper stock declined 20 per cent and 10 per cent, respectively, by like comparison.

Our imports of paper and paper products in November amounted to $7,561,242, being a slight increase over October, but a 24 per cent decrease compared with the same month last year. Standard news print imports were valued at $6,828,860, a slight increase over the preceding month, but a 26 per cent decrease compared with those of a year ago. Imports of cigarette paper, books and covers were high, amounting to $260,135, against $155,356 in October and against $166,924 in November, 1931. Kraft wrapping paper imports were also very heavy being practically treble those recorded both in the preceding month and in the same month last year. Imports of greaseproof and waterproof papers were valued at $8,138 against $4,800 in October, while the incoming shipments of writing and drawing paper, paper and envelope combinations, uncoated papers, decorated or embossed, pulp board in rolls, duplex decalcomania, not printed, paper boxes and papier mache and pulp manufactures were also considerably heavier.

Paper base imports in November were valued at $5,300,830, a 5 per cent increase over October, but a 35 per cent

decrease over November, 1931. Imports of spruce, rough, peeled and rossed, registered heavy decreases when compared with both the preceding month and the corresponding month last year. Imports of mechanically ground wood pulp, unbleached, were slightly below those of a year ago, but an increase of $113,235 is recorded over October. Unbleached sulphite pulp imports were valued at $1,916,417, against $1,381,824 in October and $2,470,289 in November, 1931, while those of bleached sulphite were valued at $1,319,970, against $1,742,656 a year ago and $1,557,811 in the preceding month. Imports of unbleached sulphate pulp (Kraft) showed an increase of 26 per cent in value over October but a decrease of 45 per cent compared with a year ago and imports of bleached sulphate were considerably lower.

United Container Association Explains

F. J. Kress, president of the United Container Association, with offices at 1 28th street, Pittsburgh, Pa., has forwarded a communication to members of the association and others eligible for membership, which reads as follows:

"As president of the United Container Association, I felt it incumbent upon me to explain to our members and to prospective members, the situation which has been brought about by the statements appearing in the several trade papers, regarding a new set up with which this association is represented as being connected.

"This association has neither given intimation nor has it had any intention of becoming identified with a group of the Paperboard Industries Association. Having just closed a successful first year, we are satisfied that our principles and our policies, as announced at the time of organization, are good and that they will enable our members to derive benefits such as a well conducted trade association should be able to offer to each and every member alike.

"From the inception of the United Container Association, it was our desire to promote the friendliest intercourse with the Paper Industries Association, as we realized that any friction between those in the same industry would be harmful to all. We immediately made it known to their officers by letters and example that this was our aim. Also, our regular meetings were scheduled in harmony with their meeting dates in order that our members might have friendly contact with their members.

"To organize the United Container Association meant a loss of some members to the Paperboard Industries Association, of course, but our method of conducting association work appealed so thoroughly to certain interests which had never been identified with any association that we believe that the industry as a whole has gained very materially by our existence. In our spirit of cooperation we were induced by them the day after their and our meetings in November to appoint a committee of three, to confer with their committee of three to ascertain what could be done to bring all container manufacturers into one association.

"The joint committee met and after a rather lengthy meeting at which all members were present, the letter dated December 3 was decided upon. After being sanctioned by every member of the committee, it was mailed under their authority in good faith to such as were eligible to membership in our association. The letter appeared in print in several trade papers.

"It should be kept in mind that while this letter was in the form of a recommendation, which must either be adopted or rejected by both associations to make it effective, yet it was our impression gained from the Paperboard Industries Association portion of the committee that whatever the Joint Committee decided would meet with the approval of their association under its new plan of organization.

"This letter is not to be considered an apology for whatever part our committee had in the proposed plan that prompted us to invite all container manufacturers without mills and all mills without container plants to join our association. It is, however, for a two-fold purpose: namely, to justify our good faith so far as our participation in the matter is concerned and to give assurance that the invitation extended, does not only still stand but that it is hereby repeated in all sincerity."

Up To Consciousness of Advertisers

Albany, N. Y., January 10, 1933.

EDITOR PAPER TRADE JOURNAL:—

The letter of Mr. J. V. Baron, Sherman Paper Company, and reprint of the editorial from the *Watertown Daily Times,* in your issue of January 5th is worthy of comment.

It is not so much a question that mills should take up with publishers the matter of "Buy American" as it is to create a consciousness on the part of advertisers who expect to profit by such a campaign in placing their advertising in only those publications which can boast of consistency for their participation in the campaign.

The principal sponsor of the "Buy American" campaign is a great chain of newspapers which has caused more difficulties for the U. S. and our foreign relations than any other single source.

The "Buy American" campaign will only be helpful to the extent that educational pursuit of the campaign will dwell upon a basis of consistent application. The Hearst chain of papers are far from qualified to sponsor a campaign as their records will show that of the hundreds of thousands of tons of news print used since the world war only a small per cent of this tonnage was American.

The campaign for "Buy American" could hardly be sponsored by mills to have publishers be consistent or to have advertisers be consistent unless those mills used the idea to employ the potential consumers of the advertisers product. The countervailing duty, with its multiplicity of dangerous implications, would do far more to promote a "Buy American" campaign than any attempt to educate either publishers or consumers. The sponsor of such legislation must live beyond the bailiwick or influence of a Hearst paper that would engage in a campaign for political removal of the American sponsor.

ARTHUR HUGGINS, Secretary,
International Brotherhood of Paper Makers.

Delaware Valley TAPPI to Meet

The Delaware Valley Section of the Technical Association of the Pulp and Paper Industry will meet at the Engineers Club, Philadelphia, Pa., on Friday evening, January 20th at 6:30 p.m. There will be three papers presented:

James d'A. Clark and R. M. von Hazmburg of the Scott Paper Company, Chester, Pa., will read a paper on "The Estimation of Dirt and Shives in Pulp and Paper."

Walter L. Glass of Shartle Bros. Machine Company, Middletown, Ohio, will read a paper on "Centrifugal Extraction of Dirt in Pulp and Paper."

John Roslund of The Moore & White Company, Philadelphia, will discuss "The Paper Machine Screen and Its Function."

Anyone interested is always welcome to attend this or other meetings of the Delaware Valley Section of TAPPI.

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Section of the
Technical Association of the Pulp and Paper Industry
Edited by Ronald G. Macdonald, Secretary

Pulp and Paper Industry Literature Review

Abstracts of Articles and Patents Compiled by the Abstracts and Bibliography Committee of the Technical Association of the Pulp and Paper Industry, A. Papineau-Couture, John F. Ohlson, C. E. Peterson and Clarence J. West, Chairman

The National Research Council, 21st and B Street, Washington, D. C., through Dr. Clarence J. West, extends the courtesy of its photostat service to members of the Technical Association of the Pulp and Paper Industry. Owing to a limitation of personnel and time, this service cannot be extended to non-members.

The charge for the photostat service is: 9 x 11 inches—18 cents per page, 18 x 11 inches—35 cents per page, 22 x 18 inches—70 cents per page, minimum charge, 50 cents.

Payment should be made upon receipt of invoice.

Copies of United States Patents can be obtained from the United States Patent Office, Washington, D. C., for 10 cents each. Send currency, not stamps.

Bleaching

Bleaching Pulp. George H. Tomlinson. Can. pat. 324,281 (July 19, 1932).—A freely flowing stream of pulp is treated with chlorine in a dilute acid solution, then with hypochlorous acid in a neutral or substantially neutral medium to produce a chlorinated pulp containing practically all of the hemicelluloses in addition to the higher celluloses, and finally the product is bleached in alkaline solution.—A.P.-C.

Bleaching Southern Kraft. R. H. Stevens. Paper Industry 14:501-503 (Oct., 1932).—A brief discussion of the advisability of producing bleached kraft pulp in the Southern States and of the precautions required in bleaching kraft.—A.P.-C.

Process for Obtaining Dry Valuable Calcium Hypochlorite. Farbenindustrie Gesellschaft, Frankfurt a. M. 550,907 (Oct. 29, 1929).—J. F. O.

Process for the Bleaching of Esparto Grass (Alpha). Marie Bourrand. Ger. pat. 547,558 (July 17, 1929).—After the bast fibers have been degummed, they are bleached with a solution of sodium hypochlorite which contains an addition of sodium bisulphite.—J.F.O.

Process for the Bleaching of Sisal Hemp. Marie Bourrand. Ger. pat. 547,827 (July 17, 1929).—The process is the same as that in German patent 547,558.—J.F.O.

Sizing

Tub-Sizing Paper. A. J. Wildman, Jr. Paper Mill 55, No. 34:5 (Aug. 20, 1932),—A brief discussion of the principal factors affecting tub-sizing: density and viscosity of the solution, softness of rubber roll, pressure of the roll, speed of the machine, condition of the paper, material for tub-sizing.—A. P.-C.

Factors Affecting Sizing (Water-Resistance) of Paper. H. Ainsworth Harrison. World's Paper Trade Rev. 97:1419-1422, 1456-1462, 1803-1804, 1840, 1918-1922, 1974-1976, 1982-1984, 2074-2078; 98, 34-41, 95-99, 175-178, 292-297, 331-332 (April 29 to July 29, 1932); Paper Maker & Brit. Paper Trade J. 83:TS158-166, TS193-197 TS208-211 (Apr.-June, 1932).—A report of the results of an investigation into the factors affecting the water-resistance (internal sizing) of paper, carried out on both laboratory-made and mill-made paper, using Carson's dry indicator method. The method employed for preparing laboratory-sized sheets having the same degree of water-resistance as mill-made paper of the same furnish and characteristics, using the British standard sheet machine, is described in detail.—A. P.-C.

"Paperine." Anon. Mon. Papeterie Belge 12:625 (Oct., 1932).—"Paperine" is a starch derivative, the nature of which is not disclosed. It is used by adding directly to the beater, either in aqueous solution or preferably as a dry powder. Its advantages are briefly outlined. It is claimed to increase retention of fillers and of fine fibers which generally pass into the white water, to increase tensile strength, elongation and folding resistance, to improve the quality of printing papers, and to permit of conducting drying of the paper at a lower temperature.—A. P.-C.

Sizing Characteristics of Wax Sizes. O. F. Neitzke. Paper Trade J. 95, No. 18:29-31 (Nov. 3, 1932).—Laboratory and mill-scale tests with bleached sulphite stock and no fillers showed that the general sizing characteristics obtained with rosin-wax size essentially the same as those of rosin size, but are obtained with lower size consumption. —A. P.-C.

Process for the Manufacture of Aqueous Colloids, Especially Sizing Materials for Paper and Similar Materials. Bruno Wieger. Fin. pat. 13,953. (May 14, 1930).—Substances which are solids within the limits of ordinary temperatures, such as natural or artificial rosin, wax, paraffin, distillation residues, fatty materials, etc., are treated alone or in a mixture with rosin, in the presence of an aqueous solution of a protective colloid, for example, casein, albumin, etc., within a temperature range between the softening and hardening point.—J. F. O.

The Sodium Hydrosulphite Rag Cooking Process*

By Samuel Lenher[1]

Abstract

The manufacture of a high grade rag paper from colored rags has long been a problem in the rag paper industry. The supply of white rags is not sufficient to meet the requirements of the rag paper mills and colored rags are widely used. The various cooking processes used in the past to effect the removal of dyestuffs from colored rags have consisted of treatment which removed the color at the expense of the strength and quality of the fiber. Cooking processes which performed a satisfactory color removal have yielded a weak half-stock, and cooking processes which yielded strong stock did not effect satisfactory color removal.

An experimental study of the cooking of new blue overall clippings to obtain a rag stock of good color and high strength is described in this paper. It is shown that a single stage alkali or alkali and hydrosulphite cooks does not yield a strong light stock. A cooking process is described in detail which gives a stock suitable for use in 100 per cent white bond paper. This cooking process consists of a short mild alkali cook followed by a wash and successive short cooks with alkaline hydrosulphite; all stages in this process are carried out in the usual rag boilers. Mill trials are described which show this process to operate satisfactorily in production.

Introduction

The manufacture of a high grade white rag paper from colored rags has long been a problem in the rag paper industry. In normal times the available supply of white rags is not sufficient to meet the requirements of the rag paper mills and the cheaper colored rags are widely used. The various cooking processes used in the past to effect the removal of the dyestuff from colored rags have consisted of treatments which removed the color at the expense of the strength and quality of the fiber. Cooking processes for colored rags which performed a satisfactory color removal have yielded a weak half-stock because of the excessive cooking time or because of the high chemical concentration employed. Conversely, cooking processes which yielded strong stocks did not effect a satisfactory color removal.

In 1931 a study of the utilization of colored rags in white paper was carried out by the Institute of Paper Chemistry, Appleton, Wis. This work showed that a great improvement could be made in the cooking of colored rags and indicated that hydrosulphites were efficient stripping agents in the cooking process. As a consequence of this preliminary work an investigation was undertaken by the du Pont Company in conjunction with the Institute of Paper Chemistry which resulted in the development of a commercial process for the preparation of a high grade white half stock from colored rags by the use of sodium hydrosulphite.

* To be presented at the annual meeting of the Technical Association of the Pulp and Paper Industry, New York, N. Y., February 13-16, 1933.
Contribution of the TAPPI Fundamental Research Committee.
[1] Research chemist, Organic Chemicals Department, E. I. du Pont de Nemours & Company, Wilmington, Del.

Outline of Problem

The process of cooking rags consists in removing from the rags (1) natural fats, waxes, and oils normally present in cellulose fibers (2) grease, oil, and foreign matter present as soil and (3) the coloring matter (if any) used in dyeing the fabric. The cooking process is accomplished by heating the rags with a solution of lime and soda ash, or of caustic soda. The particular conditions for a cook, that is, the amount and nature of the alkali and the temperature (i.e., effective steam pressure) and time interval employed are determined mainly by experience with the class of rags involved. White rags of all classes, either of the new or old grade require a relatively short cooking period followed by a mild bleach; colored rags have required a more drastic treatment in both cook and bleach to yield an acceptable half-stock. The severe treatment of colored rag stock during cooking and bleaching causes a degradation of the cellulose which makes the resulting half-stock of a quality inferior to that from white rags. The problem of improving the cooking of colored rags from a technical standpoint consists in improving, or grading-up, the resulting half-stock to approach the class of half-stock from white rags at a processing cost which is less than the price differential between high grade white rags and colored rags. From a chemical standpoint this problem consists in modifying the treatment of the colored stock in such a way that cellulose degradation is reduced to a minimum while perfect color removal is effected. In order to study this problem from these technical and chemical viewpoints it was necessary to select a class of rags for experiment which would be accepted by the trade as representative of colored rags and which would allow the chemical improvements in the cooking process to be clearly shown. The class of rags selected was that of new blue denim clippings, or new blue overalls. This plentiful class of rags is one of the most desirable sources of rag cellulose. The denim fibers have been subjected to a minimum of chemical treatment and in the form of clippings possess all of the strength of the original cotton fibers. The usual strong alkali treatment and bleach which have been necessary to yield a satisfactory removal of the dyestuff from denims, have given a highly degraded cellulose; an improvement in processing denims seemed practicable. For example the cuprammonium viscosity of a lot of blue denims was found to be 370, that of the cooked and washed rags was 123, while after bleaching the viscosity of the white stock was 10.

A preliminary survey of possible chemical means of removing color from textiles (such as the use of the common strong oxidizing agents, or of strong reducing agents such as titanium tetrachloride, alkaline sulphides, formaldehyde-sulphoxalates, and hydrosulphites) indicated that practical work could be restricted to the study of sodium hydrosulphite ($Na_2S_2O_4$). The ultimate aim of the work was thus narrowed to a study of various cooking processes involving sodium hydrosulphite as a stripping agent.

EXPERIMENTAL WORK

Experiments were undertaken to show that sodium hydrosulphite may be economically employed under certain

specified conditions to strip the color from new blue overall clippings to such an extent that the resultant half-stock, when washed, bleached, and beaten under standard conditions, can be used directly for paper manufacture without the admixture of other stock. Semi-commercial mill cooks were carried out in the pulping laboratories of the Institute of Paper Chemistry. All of the usual paper making steps subsequent to cooking were standardized in order that the results could be attributed solely to variations in the cooking procedure.

Equipment Used

The equipment used was as follows:—

Rotary Rag Boiler

The boiler was spherical in shape and of welded construction. It could be rotated on its horizontal axis; steam could be fed in through either or both of the hubs. The inside was fitted with V-shaped baffle plates. The boiler was equipped with a manhole for loading, a relief valve, and a thermometer well with a centigrade thermometer. The left hub and relief valve were fitted with hose connections to permit washing with water in the rotary.

The capacity was 14.1 cubic feet. In the runs 100 pounds of rags in a volume of 30 gallons of liquor were used. The rotary was geared to turn at 10 r.p.m.

Washer and Beater

A Dilts beating engine of a semi-commercial size was used for the entire washing and beating operation. The beater was equipped with a recording wattmeter to insure careful control of the washing and beating operation by means of the power requirements.

The power-curve method of beating was carried out by observing the recording stylus of the wattmeter and manipulating the beater roll in such a manner as to keep the power requirements at a certain constant value. With a stock which cut easily it was necessary to lower the roll rapidly in order to hold the power-curve constant, and as a result the beating time was shorter than for a harder stock; but by strict adherence to the power-curve the finished stock was found to be of quite uniform properties and it was concluded that beating time was a dependent variable while the power function was the independent variable.

The combined washing and beating operation was carried out in the Dilts beating engine with a pulp of a consistency of 2.7 per cent. This consistency was determined as the highest compatible with uninterrupted operation. The limit to which the stock could be beaten was given by a freeness of 265 cc. A typical log sheet for this standard washing and beating operation is as follows:—

The beating control obtained in a typical experimental run by use of the recording wattmeter is shown by the curve in Fig. 1.

TYPICAL BEATING RUN EMPLOYING THE POWER CURVE CONTROL METHOD

Furnish: 23 pounds of 67 per cent moisture stock or 7.5 pounds on the oven dry basis. This stock was gradually added to 35 gallons of water in the beater with the roll turning.
Start: Roll 0.12 of an inch above bed plate.
10 minutes: Roll lowered 0.06 of an inch.
25 minutes: Roll lowered 0.06 of an inch (roll now just touching bed plate).
35 minutes: Roll lowered 0.05 of an inch.
45 minutes: Roll lowered 0.05 of an inch.
65 minutes: Washing complete, wash wheel lifted out and beating begun.
75 minutes: Roll lowered 0.06 of an inch. At this point, a good sized sample is taken for specimen color sheets and bleaching tests.
80 minutes: 2.5 per cent rosin size added on oven dry weight of stock.
85 minutes: 5 per cent alum on oven dry weight of stock is added.
100 minutes: First sample taken for hand sheets and Elmendorf tear test.
120 minutes: Second sample taken for hand sheets and Elmendorf tear test.
135 minutes: Third sample taken for hand sheets and tear test. Roll lowered 0.03 of an inch. Roll now 0.18 of an inch below the zero point.
150 minutes: Fourth sample taken for hand sheets and tear test.
165 minutes: Fifth sample taken for hand sheets and tear test. At this point, the roll is raised until it is about 0.05 of an inch above the bed plate and the beater shut down. Specimen hand sheets are now made from the finished stock to show the texture of the paper which can be made and also to give a better idea of the unbleached sheet color.

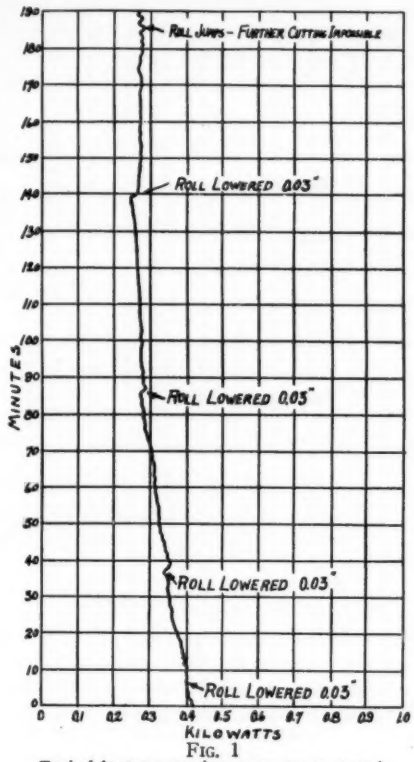

FIG. 1
Typical beater run using power curve control.

General Procedure

One hundred pounds of new blue overall clippings were cooked with 30 gallons of liquor in the rotary. At the end of the cook, the rotary was dumped, and within 24 hours the rags were washed and beaten as outlined above. Part of the pulp was then made into color pads and hand-sheets while a second part was bleached and then made into color pads and hand-sheets for comparison. The practical bleach test was a standard one for all runs and was chosen as being representative of average mill practice. The procedure consisted of bleaching half-stuff of 4 per cent consistency with 0.5 per cent of chlorine (calculated on oven-dry stock) for 1 hour at 25 deg. C. Calcium hypochlorite was used in all tests.

The chemical condition of the pulp was tested by accepted methods. Since the experimental runs themselves afforded a basis for a direct comparison between present cooking practice and the new cooks the results of the tests may be considered only of relative significance and it is unnecessary to discuss here what the fundamental interpretation of these tests may be. The chemical tests were the determination of copper number by the Schwalbe-Braidy method (*1*), the determination of alpha cellulose (*2*) and the measurement of the cuprammonium viscosity (*3*).

Physical tests on the condition of the pulp during beating were the Schopper-Riegler freeness test and the tear-strength of standard sheets measured by the Elmendorf paper tearing tester.

Control Cooks

Several pilot, or control runs were made to establish that the small spherical rotary boiler could reproduce mill

conditions. A survey of present mill practices showed that cooks with 10 per cent of calcium oxide (quantitative) and 3 per cent of soda ash on the weight of the rags (100 pounds) for 15 hours would reproduce average mill conditions. Three cooks were made under these conditions at 40, 35, and 25 pounds respectively true steam pressure. The data on these cooks, numbers 12, 18, and 20, are summarized in the first section of Table 1.

It will be noted that the viscosity and Elmendorf tear were low on all three of these control cooks. The cook at 45 pounds bleached fairly well with 1 per cent chlorine as hypochlorite, although the stock after bleaching remained quite yellow and was of very low strength. The 35 pound cook could not be bleached beyond a distinct blue color with up to 2 per cent chlorine. The high bleach caused a loss in strength which made the finished pulp scarcely superior to that produced in the 45 pound cook. The 25 pound cook contained much undischarged blue color which was not perceptibly destroyed by chlorine up to 2 per cent.

The stock from the control runs was compared with similar mill stock and it is found that the laboratory cooks appeared to reproduce ordinary mill cooking conditions reasonably well.

Single stage alkaline hydrosulphite cooks

The results of the control runs show clearly the shortcomings of the lime and soda ash single stage cook. Several runs were then made to determine the effect of sodium hydrosulphite in the alkaline cook. In the preliminary work carried out by the Institute of Paper Chemistry the use of hydrosulphite as a direct addition to the usual lime and soda ash cook had been thoroughly tried. The results of these runs showed an improvement in color removal but they were not considered entirely satisfactory. The present single stage alkaline hydrosulphite cooks were carried out with caustic soda instead of lime and soda ash. The data on these cooks, numbers 15 and 19, is given in Table 1. The runs showed an increase in strength (viscosity and tear) and somewhat improved color removal.

Multiple stage alkali cooks with hydrosulphite aftertreatment

Sodium hydrosulphite undergoes a rapid thermal decomposition as well as a rapid oxidation at temperatures above 100 deg. C. and it was evident that a considerable part of the hydrosulphite used in the single stage hydrosulphite cooks was rendered ineffective for stripping by the cooking conditions. Since the stripping efficiency of hydrosulphite is greatest between 90 and 100 deg. C. cooks were outlined with the object of utilizing the hydrosulphite to the greatest advantage. This done by carrying out a cook with alkali alone followed by one or more short cooks, or rinses, with hydrosulphite solutions at 90 to 100 deg. C. Seventeen experimental cooks were carried out to determine the optimum conditions for using sodium hydrosulphite as a stripping agent. The data on twelve of these runs is summarized in Table 1. The alkali cook was studied in some detail to determine which cooking conditions combined with a hydrosulphite after-treatment would yield the best half stock at a low cost. A balance had to be determined experimentally between color removal in the alkaline cook and degradation of the cellulose by the action of the cooking liquor.

The procedure in these runs was to cook in the rotary, blow down, and wash for 5 minutes with water at 80 deg. C. by allowing the water to drain through the stock. Thirty gallons of 0.5 per cent sodium hydrosulphite solution was then added to the rags in the rotary, the temperature brought to 100 deg. C. and the rotary turned for 10 minutes. The solution was drained off and the process repeated until satisfactory color removal was effected, which

TABLE 1.—DATA ON EXPERIMENTAL RAG COOKS

Cook Number	Cooking time	Chemicals Concentration	After treatment	Tear strength at F = 400	Copper number	Viscosity	α-Cellulose per cent	Shade of white attainable with ½ per cent chlorine
CONTROL LIME-SODA ASH COOKS								
12	15 hours at 45 pounds	10 per cent CaO 3 per cent Na_2CO_3	None	100	0.16	65	96.7	Yellow
18	15 hours at 35 pounds	10 per cent CaO 3 per cent Na_2CO_3	None	101	0.20	82.5	97.8	Bluish, with yellowing
20	15 hours at 25 pounds	10 per cent CaO 3 per cent Na_2CO_3	None	118	0.18	100.5	98.3	Blue
SINGLE STAGE CAUSTIC SODA-HYDROSULPHITE COOKS								
15	3½ hours at 40 pounds	2½ per cent NaOH 1½ per cent $Na_2S_2O_4$	None	...	0.11	299	97.5	Grey, blue
19	6 hours at 40 pounds	2½ per cent NaOH 1½ per cent $Na_2S_2O_4$	None	105	0.16	303	97.8	Light blue
MULTI-STAGE ALKALI COOKS USING HYDROSULPHITE AS AN AFTER-TREATMENT								
4	1 hour at 40 pounds	2 per cent CaO 1 per cent Na_2CO_3	4 washes of ½ per cent $Na_2S_2O_4$	...	0.23	284	97.7	Light blue
5	1 hour at 40 pounds	2 per cent CaO 1 per cent Na_2CO_3	4 washes of ½ per cent $Na_2S_2O_4$	...	0.20	264	98.2	Blue
6	5 hours at 40 pounds	2 per cent CaO 1 per cent Na_2CO_3	4 washes of ½ per cent $Na_2S_2O_4$	116	0.24	197.5	97.8	Faint blue
7	5 hours at 40 pounds	2 per cent CaO 1 per cent Na_2CO_3	4 washes of ½ per cent $Na_2S_2O_4$	112	0.18	165	98.2	Bluish, with yellowing
8	2 hours at 40 pounds	2 per cent CaO 1 per cent Na_2CO_3	4 washes of ½ per cent $Na_2S_2O_4$	124	0.18	311	97.3	Blue
9	3 hours at 40 pounds	6 per cent CaO 2 per cent Na_2CO_3	4 washes of ½ per cent $Na_2S_2O_4$	116	0.16	203	97.9	Faint blue
11	3 hours at 40 pounds	5 per cent NaOH	3 washes of ½ per cent $Na_2S_2O_4$	102	0.12	137	98.1	Yellowish
17	3½ hours at 20 pounds	5 per cent NaOH	3 washes of ½ per cent $Na_2S_2O_4$	101	0.14	150	97.7	Grey white
13	3½ hours at 40 pounds	5 per cent Na_2CO_3	4 washes of ½ per cent $Na_2S_2O_4$	106	0.22	235	98.3	Light blue
14	3½ hours at 40 pounds	2½ per cent NaOH	3 washes of ½ per cent $Na_2S_2O_4$	123	0.12	308.5	97.2	Faint blue, with yellowing
22	4 hours at 40 pounds	3½ per cent NaOH	2 washes of ½ per cent $Na_2S_2O_4$	118	0.13	250	97.4	Yellowish
23	1 hour at 55-60 pounds	3½ per cent NaOH	2 washes of ½ per cent $Na_2S_2O_4$	112	0.14	217	97.9	Faint yellow
ANALYSIS OF UNCOOKED OVERALLS								
Raw Over's.	15 minutes at 90 deg. C.	1 per cent Na_2CO_3 1 per cent Soap	.....	...	0.26	435	94.6	.....

on this laboratory scale required 2 to 4 hydrosulphite washes.

A study of the bleachability of representative stocks from the multiple stage cooks was made using freshly washed half stock. Stock at a consistency of 4 per cent was bleached for 1 hour at 25 deg. C. with 0.5, 1.0, and 2.0 per cent available chlorine solutions of calcium hypochlorite. The data on these tests are summarized in Table 2.

TABLE 2.—BLEACH STUDY

COOK NO. 9

Chemical Constant	Unbleached	½ per cent chlorine	1 per cent chlorine	2 per cent chlorine
Copper number	0.16	0.11	0.20	0.53
Viscosity	203.	164.	103.	57.
a-Cellulose, per cent...	97.9	98.2	96.8	95.9

COOK NO. 18

Chemical Constant	Unbleached	½ per cent chlorine	1 per cent chlorine	2 per cent chlorine
Copper number	0.20	0.20	0.27	0.44
Viscosity	82.5	74.	53.	37.
a-Cellulose, per cent...	97.8	97.6	97.1	96.4

COOK NO. 20

Chemical Constant	Unbleached	½ per cent chloring	1 per cent chlorine	2 per cent chlorine
Copper number	0.18	0.15	0.23	0.37
Viscosity	100.5	78.	58.	35.
a-Cellulose, per cent...	98.3	98.5	97.3	96.7

COOK NO. 22

Chemical Constant	Unbleached	½ per cent chlorine	1 per cent chlorine	2 per cent chlorine
Copper number	0.13	0.13	0.19	0.29
Viscosity	250.	180.	97.	66.
a-Cellulose, per cent...	97.4	97.5	97.2	96.9

COOK NO. 23

Chemical Constant	Unbleached	½ per cent chlorine	1 per cent chlorine	2 per cent chlorine
Copper number	0.14	0.09	0.16	0.35
Viscosity	217.	153.	103.	61.
a-Cellulose, per cent...	97.9	98.7	97.6	97.1

It was not possible to obtain even a fair white color on cooks 18 or 20 (control cooks) using 2 per cent chlorine. Cooks 9, 22, and 23 (multiple stage alkaline hydrosulphite cook) bleached to a clear white with 1 per cent chlorine.

The experiments on the various types of cooks and the several conditions for each type brought out several points of general interest. It is clear from these data that a single stage cook with alkali is not satisfactory for the production of strong light stock from colored rags. A single stage cook with alkali and hydrosulphite gives a fair half stock but necessitates a relatively high consumption of hydrosulphite. The multiple stage alkali and hydrosulphite cook yields a strong light half stock which requires only a low bleach to give a clear white. In this type of cook, other variables remaining fixed, the color removal is dependent on the concentration of alkali used; the strength of the stock (measured by the cuprammonium viscosity) also depends more on the alkali concentration than on either cooking time or temperature, although these variables are most important. A short cooking period is highly advisable in order to reduce yellowing of the stock. The hydrosulphite treatments are best carried out in successive steps, i. e., a better result is obtained with two successive extractions using 0.5 per cent of hydrosulphite in solution than with one extraction using 1.0 per cent of hydrosulphite. The hydrosulphite extractions should be carried out as rapidly as is possible with as little exposure of the stock to the air as is practicable.

Results

This investigation led to three types of alkaline cooks, all apparently of equal effectiveness, which combined with the hydrosulphite stripping aftertreatment, yielded a strong white half stock. These three cooks are:—

1. A three and one-half hour cook at 40 pounds pressure using 6 per cent lime (calcium oxide) and 3 per cent soda ash, the volume of cooking liquor being 44 gallons per 100 pounds of rags. The specified pressure of 40 pounds is that of true pressure after relieving, and the time of cooking is to be reckoned from that at which the false pressure was fully relieved. The amounts of alkali are based on the dry weight of the rags.
2. A three and one-half hour cook at 40 pounds true steam pressure with 3.5 per cent caustic soda, in a liquor volume the same as in 1.
3. A one hour cook at 55 to 60 pounds true steam pressure with 3.5 per cent caustic soda, other conditions being kept as in 1.

These experiments yielded sufficient data for an outline of a complete cooking schedule for mill scale operation of the multiple stage hydrosulphite cooking process. This schedule consists of four steps, all of which are carried out consecutively in the rotary boiler. These steps are:—

1. A short cook with alkali (as outlined above)
2. A water wash
3. An alkaline hydrosulphite treatment
4. Repetition of the alkaline hydrosulphite treatment

At the end of the alkaline cook the digester is blown down (preferably by a large blow-off pipe) and refilled with warm water. Subsequent to the initial filling of the rotary with the rags and alkali solution the manhole covers should not be removed; all filling and emptying of the digester should be done by connections with the blow-off valve in such a way as to permit the entrance of a minimum amount of air. When the digester has been filled with the wash water the steam is turned on and the turning started. After a half hour the rotary is stopped and the wash water blown out. This wash step is essential as a large amount of color which has been loosened by the alakli cook is washed out of the rags in this operation.

The third and fourth steps (hydrosulphite extractions) are carried out in the same way as the water wash. The actual technique employed is to prepare the alkaline hydrosulphite solution in a storage tank immediately before use and run it into the rotary through the blow-off valve by means of a pipe. The rotary is then turned for from 1 to 2 hours, depending on its size, construction and speed of rotation. Steam is bled in continually to maintain a temperature of 90 to 100 deg. C. (about 14 to 15 pounds true steam pressure). The liquor is then blown out, the process is repeated, and the stripped rags are finally dumped from the rotary. A concentration of 0.75 per cent sodium hydrosulphite and 0.5 per cent soda ash (based on the dry weight of the rags) in the first extraction and a concentration 0.5 per cent of each in the second extraction is ample to obtain a good color removal from dyed rags.

In adding the hydrosulphite solution to the digester the best result is obtained when the hydrosulphite enters at the bottom of the digester and floods up through the rags. Hydrosulphite strips most efficiently in an alkaline medium and the stripping solutions should be maintained alkaline with soda ash or caustic soda. The procedure following the hydrosulphite process is identical with that in current use with the exception that stock cooked by the above outlined process requires only a light bleach.

Discussion

The rag cooking process which has been studied consists in removing the dyestuff from rags with a minimum of injury to the cellulose fiber. Marked degradation of cellulose occurs at elevated temperatures in the presence of moisture and oxygen. Sodium hydrosulphite is a powerful reducing agent and exerts no detrimental action on the rag stock and in addition prevents oxidation of the cellulose during its action. In the multiple stage process an alkaline treatment is used which is just sufficient to clean the rags, open them up, and loosen the color. Color removal is effected by washing and by discharge with sodium hydrosulphite. In the older single stage cook both

color removal and cleansing of the rags are carried out in one drastic treatment. Color removal in the single stage cook is effected by slow thermal and chemical decomposition of the dyestuff, with accompanying cellulose degradation.

The stripping action of hydrosulphite with indigo dyed clippings is exactly the reverse of the indigo dyeing operation. The indigo on the rags is reduced by the action of the hydrosulphite and dissolves in the alkaline solution. When the solution is blown from the rotary the dye is removed as the soluble leuco compound of indigo. The property of indigo which makes this stripping possible is its lack of affinity for cellulose fibers. The stripping action of hydrosulphite with all dyestuffs other than indigo or other vat dyestuffs is to actually destroy, or discharge, the dyestuff chemically by its powerful reducing action.

Sodium hydrosulphite strips the color from rags dyed with indigo and the azo colors of the direct, acid and basic classes; it does not strip the color from rags dyed with vat dyes other than indigo. It acts to lighten the color of rags dyed with sulphur colors.

The multiple stage hydrosulphite cooking process effects such a great reduction in the cooking time that even with the additional control necessitated by the hydrosulphite extractions the cooking schedule of the present process is much shorter than under the older cooking conditions for colored rags. This process thus allows a mill to increase its rotary capacity without the addition of equipment. The chemicals cost of the hydrosulphite process is slightly greater than that for the older type of cook but this cost is more than covered by the usual difference in the price of strong colored rags and of new white rags and by the fact that in the present process the colored furnish is graded up to the class of new white rags in both strength and color.

This process for obtaining a white, strong half stuff from indigo-dyed rags, or rags dyed with azo dyestuffs, by the use of hydrosulphite makes it possible to use colored rags in the preparation of the finest bond and ledger papers. It is true that it is possible to obtain a white half stock from indigo dyed rags by the single stage lime and soda ash or caustic soda cook, but the degradation of the cellulose fibers gives a stock which cannot be used in paper where strength is important. This is illustrated by two different mill trials of this process in comparison with the old type of cook.

MILL TRIAL A

I

Mill trial of multiple stage hydrosulphite process using 8,000 pounds of blue denim clippings

	Alpha-cellulose	Copper number	Cuprammonium viscosity
Cooked rags	97.9 per cent	0.15	327
White bleached half-stuff before dumping into drainers	97.4 per cent	0.20	204
Bleached half-stuff after lying in the drainer for 4 days	96.9 per cent	0.37	170

II

Mill run of usual lime-soda ash cook using 8,000 pounds of blue denim clippings

	Alpha-cellulose	Copper number	Cuprammonium viscosity
Bleached half-stock from drainers	96.4 per cent	0.54	23.1

MILL TRIAL B

a: 8,000 pounds of blue denim clippings, when processed according to the hydrosulphite process and finally bleached in the beater with 1 per cent hypochlorite yielded a half-stuff which, according to the mill superintendent, was exceeded in whiteness only by No. 1 muslin and could be mixed with No. 1 muslin stock to make the highest grade bond writing paper.

b: 8,000 pounds of blue denim clippings when given a regular mill cook for 12 hours with 17 per cent hydrated lime and 2.15 per cent soda ash and finally bleached in the beater with 2.8 per cent hypochlorite yielded a half-stuff which was bluish and unfit for white bond paper.

As far as is now known, three different grades of paper have been made on a mill scale using pulp prepared by the hydrosulphite process; these papers are, 50-50 sulphite-rag writing paper, blue-print paper, and bond paper using 100 per cent blue denims. The bond paper made entirely from blue denim stock from the hydrosulphite process was equal in whiteness to the mill's regular bond paper of the same quality and showed "Mullen pop" which was 13 per cent greater, a tear 13 per cent greater, and a fold 21.6 per cent greater than the regular bond paper.

The hydrosulphite rag cooking process requires no special equipment and can be adapted to use in the rotary digesters employed at present with very minor changes. It is desirable, though not absolutely essential, that the mill equipment should make it possible to attain the following conditions:—

1. The steam supply and pressure should be great enough to produce a true pressure in the rotary of at least 35 pounds in not more than 3 hours.
2. The speed of rotation of the rotary should be at least 0.5 r.p.m.
3. A storage tank holding at least 1600 gallons and preferably 3000 gallons should be available for the wash water and for the alkaline hydrosulphite stripping liquor.
4. The digester, if of the 5000 pound type, should be equipped with at least one large (2½ to 3 inch) blow-off valve, and if of the 10,000 pound type, should be equipped with at least 2 large blow-off valves.
5. It should be possible to run the wash water into the rotary at two or more points, especially if the rotary is of the 5 ton or larger type. If the rotary is equipped with 2 or more blow-off valves, they can be connected in such a way as to make use of them for filling the rotary. If the rotary has only one blow-off valve it should be equipped with a distributing plate or pipe welded to the inside shell of the rotary to insure distribution of the hydrosulphite extraction liquors throughout the entire length of the rotary.
6. The rotary *must* be equipped with a small release valve which can be easily reached and operated even while the rotary is operating. During the alkali cook the release valve is necessary in order to blow out air entrapped in the rotary. Also when the cold or warm wash water and alkaline hydrosulphite solutions are run into the rotary through the blow-off valves, a slight vacuum is nearly always produced when the relatively cold solution enters the hot rotary. When this occurs air should be allowed to enter the rotary through the release valve.

Numerous mill trials have shown that when these conditions are met, the hydrosulphite process yields a half stock which is greatly superior in strength and whiteness to that obtained by the regular mill procedure.

Acknowledgement

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Literature Cited

[1] Technical Association Papers, May, 1930, 172-173.
[2] Ind. Eng. Chem., Anal. Ed. *1*, 52 (1929).
[3] Technical Association Papers, May, 1930, 195-200.

Water Removal Factors on the News Print Paper Machine*

By George D. Bearce[1]

Abstract

One of the most important factors in the efficient operation of a high speed news machine is the handling of the stock on the wet end of the machine from the head box to the point of entry to the driers. The question of types of head boxes, slices, and the formation of the sheet on the wire, are of vital importance, but since these conditions vary to some extent with each machine, and each mill, they are only touched on in this discussion. The major problem to be considered is the handling of the sheet through the press section, the resultant removal of water and the effect on the steam consumption per ton of paper.

Introduction

A considerable amount of scientific and valuable work has been carried on by E. A. Rees of F. C. Huyck & Sons and he has made a very complete study of both the theoretical and actual operating conditions of felts on the wet end of a paper machine. The major part of this work, however, was carried on under the standard press suction, with the bottom rubber roll and the top granite roll. Most of the modern news machines have both suction first and second presses and this creates a different problem of removal of water. The fundamental principles appear to be different compared with the standard press since there is no problem of water piling up at the nip, nor are there any rubber rolls to influence pressing conditions.

Influence Upon Action of Press Section

It is a well known fact that the character of the stock on the wire has considerable influence upon the action of the press section and the resultant steam requirements per ton of finished product. A "wild" sheet or a free stock presents somewhat different pressing and drying conditions than a well closed or dense sheet. The call at the present time is more and more for a dense sheet and these conditions will be the ones that will be considered in this discussion.

The Wire Section

It might be well to first consider the wire, table rolls, suction box and suction couch before passing on to the press section. Considering first, as an example, a paper machine with a 228 inch wire operating at a speed of about 1200 feet per minute and capable of producing an average of 150 tons of paper per day, the following amount of water must be taken out by the wire and press section.

Water To Be Taken Out

It is assumed that the average stock consistency going to the wire is .5 per cent and that the sheet to the driers has 70 per cent moisture, and the finished paper 8.5 per cent moisture—

	Air dry tons	Gals. per min. per ton dry stock	Per cent consistency of mixture	
New mixed stock	158.0	820	3.2	Mixture of stock to mixing box
Return wire white water in circulation	71.0	6568	0.18	
Return stock and water from flat screens in circulation	1.5	177	0.14	
Shower water	.5	128	.065	
Total stock in circulation	231.0	7693		
Entering head box from screens	231.0	7693	.5	(stock to wire)
Wire white water returning to mixing box	71.0	6568	0.18	
Removed by suction boxes and couch	6.5	1662	.065	
	Air dry tons		Per cent oven dry fiber	
Sheet leaving wire	151.5	180	14	
Sheet leaving 3rd press	150.	83	30	

The sheet having a moisture content of 86 per cent entering the 1st press, and 70 per cent entering the driers gives up 16 per cent water in the presses or 97 gallons (808 pounds) per minute, this leaves 83 gallons (691 pounds) per minute to be evaporated in the driers.

These figures illustrate the fact that the water removal problem is of tremendous importance in the proper formation of a good sheet of news print.

The Press Section

The operation of the presses on a news machine must be carefully followed in order to remove the maximum amount of water from the sheet before it enters the driers. Fig. 1 indicates the amount of water necessary to evaporate at varying moisture content of the finished sheet between 7 and 9 per cent. If the press section does not function at its highest efficiency the amount of water necessary to be removed in the drier section mounts up rapidly since, according to Dr. Rees it costs about 10 to 12 times more to remove by heat ing than it does by pressing. Therefore the importance of this cannot be over-emphasized.

Fig. 2 shows the relationship between the per cent of water in the sheet entering the driers and the theoretical amount of steam required per ton of paper to evaporate this water. With the cost of steam per thousand pounds known it is easily possible to figure the difference in drying costs per ton at the varying percentages of moisture in the sheet entering the driers.

Our experience indicates that the following problems are important factors in the removal of water in the press section of a fast news machine. These are listed in the order of their importance: (1) Type and weave of felt, (2) Type of suction press roll, (3) Pressure, (4) Crown of press rolls and granite rolls, and (5) Speed of operation.

1. Type and Weave of Felt

The type of wet felt now used on suction presses is especially designed to give the maximum water removal and at the same time a reasonable length of life. Each manufacturer of felts apparently has his own particular felt design which is expected to give this service. Although the paper manufacturer is not greatly concerned in the felt manufacturing processes, he must, from necessity, try out and determine under different machine conditions, what type of felt is the most satisfactory. One possible basis for measuring this particular feature is the porosity of the felt.

When the suction press roll is used the water, theoretically, should be drawn through the felt in almost direct proportion to the porosity of the felt. Therefore the most porous felt that can be used, consistent with reasonable length of felt life, is the one best adapted to news machines equipped with the suction press. This is true of

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Contribution of the TAPPI Paper Manufacture Committee.

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the first and second presses which operate under practically the same conditions. The third press has been eliminated in many modern machines and in others has been found to be unnecessary from the standpoint of water removal.

The theory of Dr. Rees, in reference to the water removal between the first and second presses of the standard press apparently does not hold good on the suction press. In other words, as the felt becomes older there is no marked tendency to lose its ability to remove water. Therefore if one felt is old and the other new, there is not a great difference in their water removal capacity after the felt is broken in.

Naturally the first press has a greater opportunity for water removal, but more pressure is caried on the second press. With the new type of suction rolls and press felts opportunity for water removal is not as important as is the case in the standard type of press. Since the function of the felt with the suction press is largely a woolen carrier felt with high porosity the problem resolves itself into a design of felt that will show a combination of the greatest porosity and longest life.

This is definitely a felt manufacturing problem and the felt makers have worked out their designs to give maximum conditions. Any felt that is not sufficiently porous to allow the water to be removed as quickly and completely as physically possible, will cause an increase in steam consumption because of a higher percentage of moisture in the sheet going to the drier section. On the other hand if the felt is too porous it may lack sufficient yarn or strength and will not hold up under continuous operation thereby resulting in a short life and excessively high felt cost. At a speed of about 1200 feet per minute, a felt must travel about 330 miles per day. The right design of felt must both remove a maximum amount of water and give full service under the high speed and heavy pressing conditions.

2. Type of Suction Press Roll

The type of suction press roll is also of importance, since the water goes through the porous felt and is removed through the holes and the suction box. Consequently the number of holes per unit of roll surface area is a factor of importance.

The action of the suction press roll is largely to draw the water through the felt and thus remove it from the sheet. Experience shows that it is necessary to maintain a vacuum of 14 to 16 inches on the couch and presses to have maximum water removal. The suction press roll has virtually eliminated the necessity for regular wash-ups and about the only routine required is to turn the felt once a week.

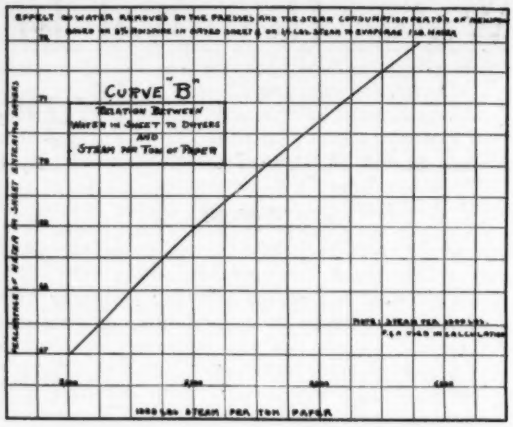

FIG. 2.
Relation between water in sheet to driers and steam per ton of paper.

3. Pressure.

The pressure on the sheet and on the felt on a standard news machine with a suction press is a factor in water removal. The granite roll on the 228 inch machine is 26 inches in diameter. It has a face of 230 inches and a weight of approximately 14,000 pounds. This has a pressure of 60.87 pounds per inch of roll length. The addition of the lever arm itself increases this pressure 10.6 pounds per inch and the addition of weights at the end of the lever arm results in an additional 25 pounds per inch. This would give a total maximum pressure of 96 pounds per inch of width on the press in question.

From an actual operating standpoint it is usual to carry only the lever arm and a portion of the weight on the first press. On the second press it is customary to give it the maximum weight that it is possible to carry. Any reduction in the weights will immediately show up on the per cent of moisture carrying through to the drier section.

The first and second presses take out virtually all the water and in many machines the third press has either been taken out or used as a smoothing roll. Some of the latest machines have been built with only two suction

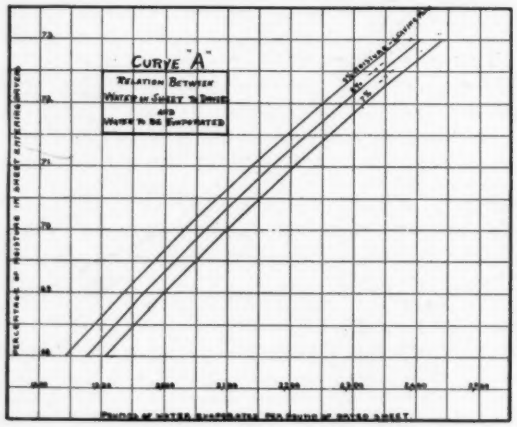

FIG. 1.
Relation between water in sheet to drier and water to be evaporated.

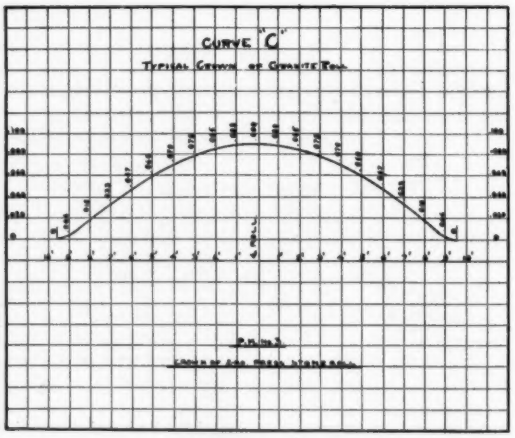

FIG. 3.
Typical crown of granite roll.

presses and records indicate that they are functioning in a satisfactory manner.

4. Crown of Press Rolls and Granite Rolls.

Closely allied to the problem of pressure is the crown of the press rolls and granite rolls. The principle involved in grinding a roll is to make the curvature exactly the same as the deflection of the roll itself due to pressure. If the pressure is changed as is often the case by means of weights on the lever frames, the deflection curve is also changed. Moreover from a theoretical standpoint the crown of the bottom roll should be the same as the top roll. If one is crowned more than the other there is a danger of one roll creeping at the point or points where there is a difference in the crown. This may cause excessive wear on the felts at the point or points where this condition occurs. For example if the crown is too great the felt will wear in the center more rapidly than elsewhere. On the other hand the wear of the felt might be on the edges which would indicate another condition.

This problem has been approached from a practical standpoint by determining the correct crown from tests on the worn felt. If the felt shows loss in tensile strength at one particular point it is then obvious that this point shows excessive crown or a point where there is too much pressure. In such a study it is necessary to determine whether or not the crown required is a regular curve or as is found to be in most cases a crown with shoulders near the ends of the rolls to take care of certain deflections in the granite roll itself. The pressure per inch of contact between rolls also has an effect on the crown since the deflection changes with the application of weights. Fig. 3 is a representative crown on a granite roll.

5. Speed of Operation.

It has been definitely established that the suction press roll functions satisfactorily and that it is possible to remove water up to speeds of 1250 to 1300 feet per minute. Experience indicates that the water removal is practically in the same ratio as for slower speeds down to 900 to 1000 feet per minute and that it is possible to get a sheet to the drier with as low a moisture content at the high speeds as it has at the low speeds. Obviously it is necessary to have all of the other factors such as the type of felt, make of suction press roll, pressure, and crowns, all operating in a satisfactory manner in order to get the desired results at the higher speeds. Since it is a simple case of water removal by suction through holes, the speed theoretically should have no appreciable effect on the water removal ability of a suction press felt on a fast news machine.

Soap Wrap Paper Testing Report*

Work done on this question has not reached any degree of finality for three reasons: First, the actual cause of discoloration with alkalies appears to be small quantities of unrecognized substances in the paper: Second, it is essential to secure cooperation with the users of the paper, and: Third, the status of the subcommittee has been changed.

Paper Stock

It is advisable to use fresh, clean, stock, especially where the coarse cheap types of soap are concerned.

A fairly large proportion of ground wood has been used in some cases with satisfactory results.

Organic residues, other than cellulose present in paper appear to be a large factor in discoloration.

Rosin Size, *per se*, does not seem to aggravate discoloration, but certain resinous impurities are darkened by alkali.

Methods of Testing

Trouble has frequently arisen from the drastic form of test used and the unscientific manner of its application.

(a) *The Drop Test.* This is often just a matter of pouring a solution of soda on the paper, and allowing it to dry there or placing it on a nearby radiator. Concentrations as high as 4 per cent caustic soda are used. These conditions are in our view not warranted in any reasonable use of wrapping paper. We recommend for this test (1) That the concentration of the soda be not over 2 per cent. (2) That the solution be applied in drops, 5 drops being placed on the paper, (3) That the drops be allowed to remain 30 seconds and the excess be then removed by blotting, (4) That the paper be air dried, and (5) That if the stain so produced be not darker than some agreed shade of ivory or buff, or some specified tintometer reading, it be considered acceptable.

(b) *The Contact Test.* In our view this is preferable to (a). It consists of placing the paper in question between two freshly cut surfaces of the soap to be wrapped, for a period and at a temperature not standardized, but ranging from 10 to 24 hours, and from 70 to 100 deg. F. Further, the matter of pressure in contact needs specification.

Cooperation With User

Your subcommittee is informed that the soap industry as a whole has no organization of a technical character competent to deal with this matter, but that the dictum of the American Oil Chemist's Society would be acceptable. We have therefore been in correspondence with its secretary, Mr. Archibald Campbell, (3239 Stettinius Ave., Cincinnati.) He informs us that his society has empowered him to appoint a committee of five members, if and when a similar committee is appointed by TAPPI. We recommend that this offer of cooperation be referred for favorable action to the Executive Committee, believing mutual information is desirable and mutual agreement necessary.

Status of Subcommittee

This subcommittee has been transferred to the Paper Use Requirements Committee and that committee is to be organized on the basis of general properties rather than particular applications; hence it is to be expected that a committee on soap wrap paper would disappear as such. It is advisable, however, that some definite group be prepared to cooperate with the American Oil Chemists' Society as per section 3, above.

We recommend that "Resistance To Alkali" be included under the head of "Chemical Properties of Paper."

Acknowledgment

The chairman wishes to express his appreciation for the cooperation given him by the following members of the sub-committee: Paul D. Bray, C. Newton Candee, Helen U. Kiely and Frank D. Libby.

T. Linsey Crossley, Chairman,
Toronto, Ontario, Canada.

* To be presented at the annual meeting of the Technical Association of the Pulp and Paper Industry, New York, N. Y. February 13-16, 1933.

The Use of 40-60 Mesh Sawdust in the Chemical Evaluation of Pulpwood *

By Byron E. Lauer[1] and Merrill A. Youtz[2]

Abstract

(1) Satisfactory (reproducible) results are obtainable in the use of 40-60 mesh sawdust in the chemical examination of pulpwood.

(2) It is preferable to use 40-60 mesh sawdust in the chemical analysis for two reasons, as follows:

(a) The sample is more easily prepared than is a 60-80 mesh or smaller sample.

(b) Chemical analysis is facilitated by its greater ease of filtration and washing.

(3) In the grinding and sifting of a sample for chemical analysis, rotten material, ash and extractives tend to segregate in that portion of the sample having the smaller sized particles. This makes it necessary to grind the sample so that it entirely passes into the size range of material selected for analysis, in order to provide uniformity in sampling.

The chemical analysis of pulpwood gives values which are based upon empirical methods of testing and, for that reason are entirely arbitrary in nature. The particle size of the wood sample used for analysis is a feature which is of the utmost importance and which has received relatively little consideration.

Directions for the procedures outlined in the bulletin "Methods Used at the Forest Products Laboratory for the Chemical Analysis of Pulps and Pulpwoods" specify the use of 60-80 mesh sawdust. Schorger (Chemistry of Cellulose and Wood, Chapter XVI, Analytical Methods) states that 80-100 mesh wood powder gives the best results. In addition, it seems to be the general opinion that 40-60 mesh, or perhaps even larger sizes of sawdust, will give satisfactory results. Since the values are arbitrary, the size of sawdust which should be analyzed is that one which will give reproducible results and facilitate preparation and use. 40-60 mesh sawdust is very much more easily prepared than the 60-80 mesh size and its use facilitates the chemical analysis in that it is more easily washed and has less tendency to clog the filtering surfaces in the alundum crucibles. If reproducible results are obtainable using 40-60 mesh sawdust, it should replace the smaller sizes in the analysis.

In the preparation of the sawdust sample for analysis, directions call for alternate screening and grinding until the entire sample passes the larger mesh screen of the classification. The material which passes the smaller screen is discarded.

Whether or not the entire sample should be ground to pass the larger screen of the size range selected for analysis can be determined by examining a sample selected from the discarded portion which has passed the small screen. If there is a difference in values between the two, that is (if segregation occurs) the sample must be ground so as to entirely pass into the size range selected, in order that comparative results may be obtained in the examination of different woods.

For the purpose of investigating the possibilities of the use of 40-60 mesh sawdust in the chemical analysis of pulpwood a sample of balsam sawdust of this size was subjected to a chemical examination.

To learn whether segregation occurred to any marked extent, the discarded portion of the above sample was sifted on the 80 mesh screen and the portion from 60-80 mesh in size retained and analyzed.

Preparation of Sample

The sample was obtained by retaining the sawdust produced from sawcuts through the center sections of eighteen balsam logs. This sample was then thoroughly mixed, quartered and the sample for analysis removed. This smaller sample was sifted on a standard 40 mesh wire screen.

To provide a means of power screening, the standard screen wire was fastened to a cylindrical framework which had been so constructed as to permit it to be supported in place in one of the jars of a ball mill.

This screen in 10 to 20 minutes of operation afforded a very complete separation of the sawdust. The portion retained on the screen was alternately ground and sifted until it had entirely passed the 40 mesh screen.

The grinding of the sawdust was accomplished by means of an Abbe paper defibrator.

A screen having holes 1.65 mm. in diameter was used in this machine for the first grinding and one having openings 0.66 mm. in diameter used for the remainder of the grinding operations. This sample was then screened to give a 40-60 mesh and a 60-80 mesh classification and the portion passing the 80 mesh screen was discarded.

Method

The schemes of analysis used for the determination of ash, hot water solubility, 1 per cent alkali solubility, ether solubility, alcohol-benzene solubility, lignin and cellulose were those which are outlined in "Methods Used at the Forest Products Laboratory for the Chemical Analysis of Pulps and Pulpwood." The determination of stable or resistant cellulose was similar to that proposed by Hawley and Fleck, Ind. Eng. Chem. 19:850 (1927).

Result of the Analysis

The results of the analysis of the two classes of sawdust are given in Table I.

TABLE I
CHEMICAL ANALYSIS OF 40-60 AND 60-80 MESH BALSAM SAWDUST

	40-60 Mesh			60-80 Mesh		
Test	I	II	Ave.	I	II	Ave.
Hot Water Solubility	3.85	3.45	3.65	4.26	4.23	4.25
1 Per Cent Alkali Solubility	12.43	12.73	12.58	13.45	13.14	13.30
Ash, Per Cent	0.53	0.55	0.54	0.82	...	0.82
Ether Solubility, Per Cent	0.21	0.19	0.20	0.31	0.36	0.34
Alcohol-Benzene Sol.	1.12	1.17	1.15	2.18	2.12	2.15
Lignin, Per Cent	31.60	31.03	31.32	31.12	31.18	31.15
Cellulose, Per Cent	56.46	56.00	56.23	55.25	55.10	55.18
Stable Cellulose[1]	42.58	42.92	42.75	41.54	40.48	41.01

[1] Residue from the hydrolysis of Cross & Bevan Cellulose with 15 per cent H_2SO_4 (Proceudre of Hawley and Fleck).

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Contribution of the TAPPI Fibrous Raw Materials Testing Committee.

[1] Junior member TAPPI, research chemist, Northern Paper Mills, Green Bay, Wis.

[2] Member TAPPI, research director, Northern Paper Mills, Green Bay, Wis.

Discussion

It is quite obvious that satisfactory checks are as readily obtained by use of the 40-60 mesh sawdust as by use of the finer material. The use of coarser sawdust facilitates the chemical analysis from two standpoints. The first is that the sample is much more easily prepared. To grind a sample so that it will entirely pass a 60 mesh screen entails a considerably greater amount of time and handling than to grind the same sample to pass a 40 mesh screen. The second is that chemical analysis is aided in manipulation because there is much less tendency for the larger particles to pack to form a difficultly penetrated cake or to otherwise clog the alundum crucible or filter. The only noticeable disadvantage is that in the determination of cellulose, one or two more chlorinations are required for the larger material than for the smaller. As the determinations are largely empirical, it would be difficult to show that the values obtained in the use of sawdust of either size was best.

Concerning the second point of the investigation, possible segregation, it is quite apparent that segregation does take place, and in some of the determinations, to a marked degree.

The rotten material, ash and extractives (harder and more brittle portions of the wood) tend to segregate in the smaller material while the cellulose forms a larger per cent of coarser grained sample. It must be understood, however, that these figures do not represent a comparison of values obtained by an examination of 40-60 and 60-80 mesh samples for the 60-80 mesh sample used in this determination is not the 60-80 mesh sample as ordinarily prepared but consists of the siftings from the coarser range. The comparison is solely for the purpose of pointing out that segregation does occur.

While there would probably be some difference in an analysis using a 40-60 or a 60-80 mesh sample as usually prepared they probably would not be of the magnitude of the differences exhibited here. In the preparation of a 60-80 mesh sample practically all of the material which above was in the 40-60 mesh size range would be in the sample while a share, at least, of the 60-80 mesh material in the above test would have passed on through the 80 mesh screen to be discarded. It is not unreasonable to think though that the segregation as exhibited above would be carried over to the 60-80 mesh and finer than 80 mesh materials.

Developments in the Microscopy of Paper*

By John B. Calkin[1]

Present Status of the TAPPI Microscopic Sub-Committee

The present sub-committee was organized about a year ago. The work is being carried out through the cooperation of the following: T. C. Bentzen, L. B. Foster, K. P. Geohegan, Gertrude J. Griffin, M. S. Kantrowitz, J. M. Krauss, C. E. Libby, Louise E. McGrath, R. W. McKinley, J. W. Perry, C. E. Peterson, Mary L. Rollins, G. K. Spence.

The work has thus far been limited to the determination of weight factors for the dot count method of fiber analysis *(1)*. The samples are being prepared through the cooperation of Miss Griffin of The Forest Products Laboratory, R. W. McKinley of A. D. Little, Inc., and C. E. Peterson of The Riegel Paper Corporation. Analyses are being made by the members of the sub-committee.

Preliminary studies are being made on the effect of beating and fibrilization in studying weight factors. Reports indicate that this is not a serious factor, but other samples are being made up carrying the beating further in order to be absolutely certain of this point.

There is a great variation in wall thickness between springwood and summerwood fibers and as the percentage of springwood and summerwood fibers in trees grown under different conditions varies, it is necessary to go into this point. Miss Griffin of the Forest Products Laboratory has brought up this point and is having samples made up.

As soon as these variables have been determined for rag-sulphite compositions it should be possible to map out a more systematic attack on the other weight factors.

Proposed Problems

The following is a list of problems which has been proposed for sub-committee work.

1. Fiber composition weight factors (under way).
2. Differentiation between bleached sulphate and bleached sulphite.
3. Differentiation between bleached sulphite and bleached soda in order to determine the process of manufacture.
4. Identification of high alpha fiber.
5. Stain for direct application to paper to indicate approximate percentage of unbleached fiber.
6. Identification of plant fiber such as cornstalk, bagasse, and straw.
7. Measurement of fiber dimensions.
8. Strength of single fibers.
9. Chlorides in the iodine-potassium iodide stains, with a view to developing new stains.
10. Deterioration of Herzberg's stain.
11. Effect of defibering for microscopical analysis on the fiber length.

Suggested Program of Research

It will be noted in the above list of problems that a large number deal with differentiation of fibers. Recent correspondence with members of the sub-committee indicates that this type of problem is uppermost in the minds of the members, especially Nos. 2 and 4.

It is for this reason that the present program deals mainly with this side of the picture *(2)*.

Before dealing with methods of differentiation the writer wishes to point out the fact that while the microscope yields valuable information, the methods of microscopy must be used with care and caution; the personal equation is often a large factor. Then too, we deal with materials which are often abnormal, in the sense that we seldom find the "ideal" material. A crystallographer once said that the abnormal crystal is the normal one.

The present writer has occasionally tried to find a particular characteristic of a paper fiber only to find that it was not there; it has either been lost or removed in the paper-making process or in straining the fiber for analysis. Caution should also be observed in interpretations of il-

(TAPPI Section, Page 39)

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Contribution of the TAPPI Paper Testing Committee.

[1] Member TAPPI, Chairman, Microscopic Sub-Committee; Fellow of The Textile Foundation, Baker Laboratory of Chemistry, Cornell University, Ithaca, N. Y.

lumination effects. It should further be borne in mind that trials on known materials first are a great help in identification.

Methods of differentiation may be divided into five classes: 1. Morphology of fiber, 2. Staining, 3. Illumination effects, 4. Refractive index, and 5. Combination of two or more methods.

There is much excellent literature on the morphology of fibers *(3)*. There are many differentiations where staining and illumination effects assist in bringing out the morphology of the fibers. Many papers, especially some made in foreign countries, can only be analyzed in this way *(4)*. Careful painstaking work is necessary for this type of analysis, and a large collection of known fibers and good photomicrographs are a great asset or rather an absolute necessity.

Anisotropic substances have two or three refractive indices. Papermaking fibers are anisotropic and it is possible with facility to determine two refractive indices. These have been determined for a number of fibers *(4a)* but there is still need for further work. This property of papermaking fibers might be useful in conjunction with the morphological appearance, as papermaking fibers exist in varying degrees of orientation and with various impurities.

Turning our attention to the staining of fibers we find a wide variety of possibilities. The plant histologist early recognized the advantage of stains, although not so much from the standpoint of identification as for bringing out structure. The plant histologist unlike the paper microscopist dehydrates the specimen with alcohol before staining. This may account for the considerable variation found, even with the Herzberg stain, for fiber work *(4b)*. The writer has obtained better colors by drying the sample in an oven before applying the Herzberg stain than in using only filter paper to remove the excess water from a small pellet of fiber and then disintegrating by means of dissecting needles after applying the Herzberg stain.

There is a possibility that some of the stains used by plant histologists might be used to advantage *(5)*. The histologist uses combination stains to emphasize some particular feature, and Chamberlain states *(6)*; "success in double staining can be obtained only by noting the effect of each stain upon the various plant structures." Some of the earlier fiber analysis stains depended on a double color effect, but this point appears to have been passed over in the more recent work. Noting only the final color may be less time consuming, but it might be found that a double color might be more accurate for differentiating certain materials.

There are at present several stains in general use which dye the fibers with organic and inorganic dyes. The well-known Lofton-Merritt *(7)* and C. G. Bright *(8)* stains are carried out with the fiber on a microscopic slide. Wisbar *(9)* uses the same dyes as Lofton and Merritt for the differentiation of unbleached sulphite and sulphate, but dyes the fibers in a test tube. It might well be that certain of the differentiations, which it is desirous to obtain, might be effected by an extensive study of the many dyes available at the present time.

There are many fiber characteristics which can be accentuated by using proper illumination *(10)*. Care must be exercised to be on the watch for abnormalities in various fibers, and a set of known samples are a great help. The writer has found dark field illumination useful in differentiating certain grasses. Polarized light is for general microscopic work a very useful time saver, but there have been few attempts to apply it to fibers. Fibers, both natural and artificial, are anisotropic to a varying degree depending on their orientation and impurities. Thus, when the fiber is viewed between crossed nicols the fibers exhibit various colors of varying intensities depending on the fiber itself and its position with respect to the plane of the polarized light.

When a suitable colored anistropic material is viewed above *one* nicol prism it is possible to observe pleochroism *(11)*. It is preferable, especially for fiber work, to rotate the prism rather than the fiber. There has been little work done on the pleochroism of vegetable fiber. Behrens did some early research which has not been followed up since *(12)*.

The use of ultraviolet light in the study of fibers received attention from Hartley *(13)*. Lewis *(14)* has also investigated the subject. Recent papers have dealt with the application of fluorescene to textile materials and dyes *(18)*. Schorger *(15)* believes that fluorescent properties may eventually shed light on differences in the constitution of cellulose *(16)*. The fluorescene of the fibers in ultraviolet light may be that of the unstained fibers, but it is also possible to obtain effects by staining the fiber with certain dyes prior to observation.

As indicated above there are many instances where a combination of one or more methods of differentiation are helpful. Where there is doubt, it is often well to try a number of methods to find out which would best suit the conditions.

There are very good indications of academic cooperation in this program, and it is hoped that further interest can be fostered with the view to having more of our problems attacked from this angle.

The more commonly used stains such as the Herzberg stain, the Sutermeister stain, etc., can be found in suitable reference books *(17)*.

Acknowledgment

The writer wished to take this opportunity to express his appreciation for the cooperation and many helpful suggestions that Professor E. M. Chamot of Cornell University has given the microscopic sub-committee.

Literature Cited

[1] Calkin. Paper Trade J. 94, No. 19, 37 (May 12, 1932). Landes, Paper Trade J. 95, No. 6, 27-30 (August 11, 1932). The latter work was not done by this sub-committee.
[2] It is proposed to deal with the other problems in future communications.
[3] Some of the works include the following: Hanausek-Winton, Microscopy of Technical Products (1916). Hanausek has published a number of papers in Papier-Fabrikant dealing with the miscroscopy of paper pulps. Herzog, Mikrophotographischer Atlas der technisch wichtigen Faserstoffe (1908). Mathews, Textile Fibers (1924). Carpenter, An Atlas of Paper-Making Fibers (1932).
[4] Unpublished researches on a large number of papers by the late William S. Calkin.
4a. Herzog, Die Unterscheidung der näturlichen und kunstlichen Seiden, Dresden, 1910. Herzog, Chem. Zeit. 40, 528 (1916).
4b. For work on the deterioration of the Herzberg stain cf. Paper Trade J. 91, No. 24, 51-55 (Dec. 11, 1930).
[5] Chamberlain, Methods in Plant Histology (1915). Earlier stains are found in the editions of 1901 and 1905. cf. Strassburger, Histological Beiträge, Heft i-vii, 1888-1909, for other stains no longer in general use.
[6] Chamberlain, Methods in Plant Histology 59, (1915).
[7] Lofton and Merritt, "Method for Differentiating and Estimating Unbleached Sulphite and Sulphate Pulps in Paper", Tech. Paper No. 189, U. S. Bureau of Standards.
[8] Bright, Paper 20, No. 25, 11 (Aug. 29, 1917). Paper Testing Methods, 20 (1928).
[9] Wisbar, Papierfabr. 21, 349-51 (1923).
[10] For methods and technique of illumination effects, see Chamot and Mason, Handbook of Chemical Microscopy, I (1930): Gage, The Microscope (1927).
[11] Chamot and Mason, Handbook of Chemical Microscopy, I, 287 (1930).
[12] Behrens, Anletung zur Mikrochemischen Analyse (2nd ed., 1908).
[13] Hartley, J. Chem. Soc. 63, 253 (1893).
[14] Lewis, J. Soc. Dyers Colourists 34, 167-72 (1918); 37, 201-04 (1921); 38, 68-76, 99-108 (1922).
[15] Schorger, Chemistry of Cellulose and Wood (1926).
[16] cf. Pringsheim and Lamm, Koll. Zeit. 54, 36-42 (1931).
[17] Paper Testing Methods, 18-21 (1928). Manufacture of Pulp and Paper, V, 50-57 (1925).
[18] Hirst, J. Text. Inst. (sp. issue) 18, 369-75T (1927); Kummer, Melliand's Textilber, 9, 415-16 (1928); Nopisch, ibid., 136-38, 341-44 330 (1928).

Section of the

COST DEPARTMENT

of the

American Paper and Pulp Association

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Self-Regulation and the Law*

By Edgar L. Heermance

In relation to business, American law and its administration serve three main purposes; to keep competition alive, to reenforce voluntary regulation, and to protect the public where self-regulation has failed.

The United States is one of the few countries that has continued to hold full allegiance to the competitive system. Or, to put it in another way, we have yielded less to the world-wide swing toward paternalism. The Sherman Act, which is the bulwark of "compulsory competition," embodies certain venerable provisions of the common law regarding restraint of trade. Designed primarily to guard the public against oppressive monopolies, it did so by keeping competition open to all companies wishing to enter the market. That has been the intent and the effect of Supreme Court decisions.

The restraint on combination acted at the same time as a brake on the new trade-association movement. Free competition has its drawbacks. Unless kept under some sort of control, it often proves suicidal to its participants and of no permanent benefit to the public at large. This situation was not contemplated by the framers of the Sherman Law or by its early judicial interpreters. Nor did they foresee the shift from individual to group action, the fact that the efforts to make competition workable would be made by organizations of competitors.

Control by the Trade Association

Modern business is highly specialized. The roster of American trade associations reads like an encyclopœdia of commerce; it begins with abrasive paper and ends with Zinc. Each group is more or less distinct. The members of an industry, or of closely related industries, face similar problems, and integration has followed the line of common interest. This organization movement was well under way by the time of the World War, which gave it added impetus. Mr. Hoover, as Secretary of Commerce, brought to it the active support of his Department. Today there are probably 2,000 trade associations of national scope. They naturally vary in strength and effectiveness. My own impression would be that three quarters of them are of little practical value to their membership. No more than 50 of the 2,000 could be classed as really efficient. But the widespread change from individualism to cooperative effort has been one of the striking features in American business life.

The basis of trade organization is mutual aid. The more active associations have developed such joint activities as legislative and traffic bureaus, credit interchange, the gathering of trade statistics, and education in cost finding. They have played an important part in the movement for standardization and simplification. The trade convention often develops into a school of methods. A good deal has been done along the lines of industrial research and joint trade promotion. The post-war period has seen a steady improvement in organization technique and in the amount and quality of the service rendered. A recent tendency has been to reorganize as an Institute which might be described as a trade association that takes itself seriously and makes large use of a trained business staff.

A strong organization of competitors, working for the protection and improvement of their common business, supplies a basis for social control. Conditions within the industry are no longer anarchic. Competition is carried on in a different atmosphere. As the members learn to know one another, the old hostility and suspicion melt away. They begin to share experiences and exchange business courtesies.

Common effort tends to bring out a sense of the industry as a whole. The companies learn to know their costs and to use market reports in planning production. Every such improvement in business methods is a flank attack on unfair and uneconomic practice. In the course of time, as in the mediaeval guilds, trade customs crystallize into an unwritten code. Public opinion within the group helps to hold the membership in line. Social pressure is less effective in the large group or where surplus capacity is excessive or where considerable outside competition must be reckoned with. Each industry is made up in part of an organized body, and in part of an unorganized fringe over which the trade association has little control.

Few trade associations have developed to the point where they can take direct action against trade abuses. The written code is a case in point. During the post-war slump the intense competition for business made unfair practice more common and more serious. Professional codes of ethics suggested an effective method of attack on such practices. Business leaders did not realize that the value of the professional code is not in the document, but in the slow development of an unwritten code that lies behind it. Code-writing spread rapidly, largely by imitation, and became more stereotyped in the process. Between 1921 and 1928, probably 400 national associations made the gesture of adopting written standards of practice. The effect on business ethics, however, was practically nil.

* Harvard Business Review.

Trade abuses are not corrected by fiat. Many of the codes were idealistic statements in general terms. Where they were specific, there were no adequate sanctions except those which the industry's unwritten code already supplied.

If an organized industry is in a position to legislate for itself in matters of trade practice—and a number of them have reached that stage—some machinery must be provided for enforcing the rules. Two examples may be cited to show the possibilities of voluntary control. They illustrate the type of mechanism and the high degree of social solidarity which are necessary for effective self-government in business. In discussions of the Swope plan for stabilizing an industry through the trade association these conditions are often overlooked. The responsibility of the individual to the group, on which all government depends, is a matter of slow growth.

As a first example, the organization of paint manufacturers may be cited. It has represented the stronger companies in a somewhat widely diffused industry. In 1898, after several years of association, they were able to correct the abuse of taking in exchange the stocks of another manufacturer on the dealers' shelves. This was done through the Non-exchange Agreement, which was made a condition of membership. It was not until 1917, however, that the group was ready to attack the prevalent evil of commercial bribery. A rigid Anti-rebate Agreement was signed. The association joined with the varnish manufacturers in setting up at Washington their own Unfair Competition Bureau. The Bureau has functioned as the focal point for self regulation throughout the industry. It concerns itself not only with bribery, which has been practically eliminated so far as the organized section of the industry is concerned, but also with adulteration, misrepresentation and other forms of unfair practice. Complaints and charges are carefully investigated and settled where possible through the parties involved. This applies to members and non-members alike. Expulsion from membership or legal prosecution is kept as a last resort.

The meat-packing industry supplies another good example of self-regulation. The large amount of capital required results in fewer competing units. Membership in the American Institute of Meat Packers has been substantially inclusive. After a ten year record of constructive service, the institute adopted in 1929 a brief code of practice covering various phases of unfair competition. Complaints and answers are handled through the president. Where necessary, cases are sent to the regional Chairman, and provision is made for a series of courts of appeal, ranging from the divisional committee to the Secretary of Agriculture. The machinery appears to be adequate for its purpose. If unfair competition arises, there is a way to take care of it. In the first year and a half, a total of 15 formal complaints were filed, of which 7 were settled by the parties to the complaint. During the same period, the Committee of Interpretation and Appeal considered 56 requests for interpretation of the code.

Group Action and the Law

How far could the trade associations go without violating the antitrust laws? Since the World War business men have constantly been confronted by this question, which at times has been acute. The reluctance of the Department of Justice and the Supreme Court to approve joint activities has been due in part to the untrustworthiness of organized business groups. In the 1921 Hardwood Case, the association was trying to accomplish something which was desirable from every point of view; that is, stabilize the lumber market and prevent wasteful overproduction. But they took an illegal and from the traditional American standpoint, a socially dangerous method. What the court condemned was concerted action, under the direction of the secretary, to cut down production and increase price. The "meeting of minds" in a trade association is liable at any time to take that form.

The past decade has seen two lines of progress. The first is the broadening of the law. There is still a border zone, as always will be the case in a developing, as contrasted with a static, society. But the federal courts have come to recognize not only the new cooperative competition but also the economic value of such activities as the exchange of statistics on production, cost and prices in actual sales. As Justice Stone said in the Maple Flooring Case, "Competition does not become less free merely because the conduct of commercial operations becomes more intelligent through the free distribution of knowledge of all the essential factors entering into the commercial transaction."

The second line of advance is that the more efficient trade associations have learned to live within the present law and without feeling it any special impediment to common action. They realize that production and price agreements could not be made to work in practice. Except in special cases, where there is a virtual monopoly, such attempts have been more or less of a failure both here and abroad. The competition of outside firms tends to break down the best-laid plans for curtailing production. The companies which have signed the agreement cannot be held in line. Economic stabilization must be reached by the slower method of developing business facts and educating the membership in their proper use. Compulsory competition has its drawbacks; it may require modification in such industries as coal mining and oil. In general, however, it has not proved incompatible with voluntary regulation.

The Legal Reenforcement of Voluntary Regulation

As organized business becomes more expert in self-government it is reasonable to expect that public regulation will improve in quality. The reenforcing function of law will be more clearly recognized. The Trade-Association movement, in its efforts to avoid the evils of excessive competition, may be said to ask two things of government. The first is that its own solution of competitive problems, as worked out by experience shall be recognized by the courts, if not contrary to the public interest. That is, business claims the right, within reasonable limits, to develop business law to meet its needs. The second demand is support from government in bringing within the scope of business law, as thus developed, those competitors whom the trade association cannot reach through its own education and discipline. That is exactly what the relations have been in food and drugs and other forms of legal standardization. It is the way in which the Law Merchant originally came into being. The requirements of the situation are twofold: on the part of organized business, the freedom to define situations, to create standards of practice and enforce them as far as can be done by the pressure of public opinion in the industry; on the part of government, approval of these voluntary standards of practice, when in the public interest, and such further enforcement as a public agency may provide to insure fair competition. That, I believe, states fairly well the ideal toward which the stronger trade associations have been working.

The Federal Trade Commission

The Federal Legislation of 1914 was a recognition that unfair methods of competition are destructive of competition. This legislation set up a special agency, the Federal Trade Commission, to prevent the types of practice in interstate commerce out of which restraint of trade was likely to arise. For many of these unfair methods of competi-

tion there was no remedy under the Sherman Act or in the common law. An administrative tribunal, authorized to use summary procedure and determine the facts in any given case, would offer a needed protection to legitimate business.

The Commission, due to the constant changes in personnel, has had somewhat checkered history. For the first five years, aggrieved competitors were free to register complaints, which were rather thoroughly investigated. The Commission's "cease and desist" orders, when upheld by the courts, did something to define unfair competition in its various forms. But business was inclined to regard it as another persecuting agency like the Department of Justice.

In 1919 the Federal Trade Commission started the plan of taking the industry into consultation. The first regular case of this sort was that of the creamery butter manufacturers of the Mississippi Valley. The number of complaints made it desirable to learn how widespread were the practices complained of. As stated by Commissioner Colver, the conference was "for the purpose of gathering the best judgment of the representative members of the industry as to whether certain practices were fair or unfair and were in or against the public interest. It was understood that the judgment of the industry, as expressed, should be for the guidance of the Commission and should be regarded a prima facie law merchant for this industry." Those present, after full discussion, drew up a statement of unfair trade practices from which they agreed to refrain.

Here was a proffered reenforcement of self-regulation, an arrangement between government and business very like the ideal stated above. As time went on and the new method of the Commission became better-known, the trade associations made increasing use of it. Beginning with a yearly average of two or three industries, the number increased to 16 a year after 1926, when a special Division of Trade Practice Conference was established by the Commission. By July 1, 1929, a total of 68 conferences had been held. The movement then assumed mass proportions, reaching 128 before the method broke down temporarily in the middle of 1930.

In a sense, the trade-practice conference was premature. It was in advance of both business and the law. The courts, by which the Commission's orders were reviewed, were not sufficiently in touch with recent business conditions to appreciate an industry's definition of unfair practice. Trade groups had not realized that the value of the conference rules would be in proportion to their own effort. They were inclined to regard them as a panacea for the evils of excessive competition. The code-writing movement, already mentioned and which followed the previous depression, may be viewed as a rather close parallel.

Control of trade practice by an organized industry requires that the degree of over-capacity be moderate rather than excessive and it presupposes a long experience in working together. In many of these 128 conferences, the rules adopted were counsels of perfection which no one took very seriously. In other cases, the industry attempted to agree on a code of practice by which all the members should be bound. An elaborate machinery was set up for handling complaints of violation. But no grist came to the mill. The members, in their desperate need for business gradually slipped back into the old ways. The idea that any prevailing form of unfair practice can be eliminated, if all the companies will stop it together, is a beautiful theory which does not work out in practice. Some of the more ambitious attempts, like those of the plumbing-supply and paper board industries have already been abandoned.

To those industries which had made definite progress in self-regulation, the trade-practice conference offered certain distinct advantages. By combining the collective advice of the trade with the administrative method of lawmaking, legal standards of fair competition could be made definite enough to check the spread of misrepresentation and misbranding, as in rebuilt typewriters, or gold-rolled plate or furniture, or furs. The representative nature of the conferences as well as the semi-official character of the rules adopted, gave them in any case a standing which action by the trade association alone would not have had. And the fact that specific standards had been endorsed by a government agency was an assurance that action along those lines was not illegal. This was an important point. Uncertainty as to the law and the frequent summonses and prosecutions had made business men nervous as to any common action. Many trade practice rules were put in much the same position as recommendations for simplified practice. They could not be enforced by any Federal Bureau. Undue pressure must not be exerted, as the motion-picture producers discovered in the matter of standard contracts. But the Commission's approval left the trade association free to do what it could through organization and education.

As to the Federal enforcement feature, too many business groups came to regard it as a remedy for all their ills. They failed to realize that government can help only those who help themselves. The police work of the Trade Commission was necessarily limited. Its power to take action against a competitor who was seriously disturbing the industry was valuable, chiefly as an occasional example or a continuous threat. Usually when the Commission did act, it was after such a long delay that the order lost a good deal of its effect. This was true even with 128 trade practice conferences to look after. To expand the Commission into a police agency for 2,000 industries is hardly conceivable. Except for clear cases of law violation, the threat of action by the Federal Trade Commission has right only so long as it is generally believed. When aggressive competitors realize that most of the violations of trade conference rules could not at present be proved in court, the bogie of possible prosecution is laid. It no longer terrifies or deters. Another weakness of this exaggerated emphasis on enforcement, which many business men were keen enough to recognize, lay in the fact that the companies which lived up to the new rules would be handicapped by the competition of firms which did not. In other words, until an industry achieves substantial unanimity in practice it has not reached the stage of self-regulation, where it can appeal to government for help against the disturbing elements on the fringe.

Cooperation or Law Enforcement

The Federal Trade Commission has suffered from the lack of any clear and consistent view of its functions. In dealing with business, it seems to have vibrated between a policy of constructive cooperation and one of narrow law enforcement. In 1925, trade practice rules began to be divided into groups I and II. The ostensible reason was that the first covered violations of existing law of which the Commission would take cognizance, and the second were merely received as expressions of the trade. The distinction was often illogical and far-fetched. And the Group II rules, which were not illegal in themselves, were designed to cover those unfair methods of competition in industry which it was the express duty of the Commission to prevent. Approval by the Federal Trade Commission would not make any rule a rule of law or protect a business group against prosecution if it engaged in restraint

of trade. In 1928, the pendulum swung back. The Commission decided to treat clandestine violation of any trade practice rules, whether Group I or II as unfair methods of competition, on the ground that strict observance of good faith in a signed agreement was to the best interest of the trade. This "clandestined rule" however, was rescinded after a few months.

The year 1930 saw violent controversies within the Federal Trade Commission and between the Trade Practice Commission and between the legal staff. Abandoning the policy of encouraging voluntary legislation by each trade in the industry's own terms, the Commission made a drastic revision of the rules outstanding, in order to bring them into line with existing statute law.

It seemed for a time as if there would be serious reactions from this sudden checking of a movement that had assumed such impressive volume. Self-regulation had been given at least a psychological setback. Indignation among the industries concerned reached fever heat at the Congress of Industries held at Niagara Falls on September 25, 1930. Heavy Pressure was brought to bear on the Commission and the status quo ante appears to have been substantially restored. But the revision of the rules, issued during the past year, although more liberal in some ways, does not alter the outstanding fact. Trade practice conferences have lost all spontaneity. Industries are again flocking into the Ark to escape the economic flood. But the terms of admittance are rigid; the various industries must conform to a standardized phraseology, whether they make lime or lightning rods.

Group I rules are now stated in terms of existing law. Such law involves in large part the antitrust statutes, of which the Federal Trade Commission was never made general custodian. By this arbitrary step, this narrowly legalistic attitude, the Commission tends to become a mere duplicate of the Department of Justice. There always has been a certain lack of teamwork between the two agencies. The Federal Trade Commission had been given the function of preventing unfair methods of competition that might lead to restraint of trade and the Attorney General's office that of prosecuting actual restraint of trade. This distinction of function was often overlooked. It will be largely wiped out if the Commission ceases to deal with prevention in the broad sense.

The Commission's Proper Function

If the function of the Federal Trade Commission, on the substantive side, is to prevent unfair competition, and on the adjective side to reenforce self government in business, its contribution, and it is a very real one, might be expected to be as follows: First, the study, through its own staff or other agencies of basic conditions in an industry, not with a view to ferreting out possible violation of law but to aid in disclosing the economic handicaps that limits the industry's strength and service. Second, to cooperate with organized industries in the defining of situations and the development of adequate measures of self-regulation; the work of the Commission with the paint and varnish industry and with the periodical publishers shows what the trade practice conference may be at its best. Third, to assist industries in broadening the law, by helping them to carry through the courts test cases in the twilight zone where the business group feels that certain common action is needed and where the law is not yet clear. Fourth, by instituting corrective proceedings and particularly by the use of the stipulation method, with publicity where necessary to attempt the elimination of unfair practice in cases where the well-being of an entire industry is involved. By leaving to the Department of Justice the ordinary handling of law violations the random sniping at petty cases of unfair competition is of doubtless value the Commission would tend to become an administrative tribunal as it was intended to be, rather than a policeman.

To enable the Federal Trade Commission to fulfill these functions no change in its organic law but merely a personnel of high quality and broad viewpoint is required. The authors of the Trade Commission Act could not have foreseen this development of its activity. They still were thinking of self-regulation if they thought of it at all in terms of the individual business. Today we must think of self-regulation, and of the service which the commission can render, in terms of the business group. The Act needs to be so interpreted. I would emphasize the change that has come in the last ten years along the line of concerted effort, a change of which the practice conference itself is a symbol.

In the historic Gratz case Justice McReynolds, speaking for the majority of the Supreme Court, defined "unfair methods of competition" as covering practices generally regarded as "opposed to good morals because characterized by deception, bad faith, fraud or oppression" or practices which are "against public policy because of their dangerous tendency unduly to hinder competition or create a monopoly". A third and more inclusive category should now be added to cover practices which are contrary to the public interest because they tend to upset the economic stability of an industry.

A basis for this change is laid in the recent opinion of the Supreme Court in the case of Federal Trade Commission v. Raladam Co. decided May 25, 1931. For a practice to constitute an unfair method of competition it must tend injuriously to affect the business of competitors. "By the plain words of the act, the power of the Commission to take steps looking to the issue of an order to desist depends upon the existance of three distinct prerequisites: (1) That the methods complained of are unfair (2) that they are methods of competition in commerce and (3) that a proceeding by the Commission to prevent the use of the methods appears to be in the interest of the public. The scope of the Federal Trade Commission apparently would be to referee the game between competitors in order to insure fair and socially beneficial competition. All forms of ruthless and destructive trade war could be banned. Though a reference to this ruling has been inserted by the Commission in many of the latest trade-practice conferences, its full implication does not seem to have been grasped.

Prophylactic Law

During the Coolidge administration, the Antitrust Division of the Department of Justice under the Assistant Attorney General, William J. Donovan, developed the policy of prophylactic law. Industry was invited to submit plans for combination, whether in the form of members or trade associations. No approval was given, but the interested parties were informed if their plans seemed likely to result in violation of law. This service proved of great value to the business world. Prophylactic law was abandoned to a large extent by the new administration. With the change of front on the part of the Federal Trade Commission there was no connection between the two events—the trade associations were bewildered. Was there no way by which the smaller companies, particularly in their joint efforts for survival, could experiment with the needed self-regulation without the danger of being found criminals under the Sherman Law?

The American Bar Association, in August, 1930, approved a suggested revision of the anti-trust laws submitted by its Commerce Committee. Under this amendment, the Federal Trade Commission would become primarily a fact

(Continued on page 44)

IMPORTS OF PAPER AND PAPER STOCK

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NEW YORK IMPORTS

WEEK ENDING JANUARY 14, 1933

CIGARETTE PAPER

Liggett & Myers Tobacco Co., McKeesport, Havre, 7 cs.; Standard Products Corp., McKeesport, Havre, 16 cs.; Standard Products Corp., Excalibur, Marseilles, 38 cs.; American Tobacco Co., Acquitania, Southampton, 50 cs.; Gluckman & Strauch, Rochambeau, Havre, 5 cs.; American Tobacco Co., Rochambeau, Havre, 150 cs.; Max Speigel & Sons, Deutschland, Hamburg, 4 cs.

WALL PAPER

——, Hamburg, Hamburg, 2 cs.; F. J. Emmerich, Hamburg, Hamburg, 10 bls.; Titan Shipping Co., Amer. Farmer, London, 2 bls.; J. E. Bernard & Co., Amer. Farmer, London, 3 bls.; F. J. Emmerich, Aurania, Southampton, 1 cs.; F. J. Emmerich, Deutschland, Hamburg, 3 cs.; J. E. Bernard & Co., Deutschland, Hamburg, 1 ble.

NEWS PRINT

Baldwin Paper Co., Hamburg, Hamburg, 122 rolls; Jay Madden Corp., Frankfurt, Bremen, 334 rolls; Jay Madden Corp., Amer. Importer, Hamburg, 145 rolls; Perkins Goodwin & Co., Amer. Importer, Hamburg, 218 rolls; ——, Tapdalsfjord, Oslo, 673 rolls; Perkins Goodwin & Co., Deutschland, Hamburg, 410 rolls.

PRINTING PAPER

E. Dietzgen & Co., Hamburg, Hamburg, 15 cs.; ——, Frankfurt, Bremen, 66 rolls, 19 bls.; International F'd'g. Co., J. Jadot, Antwerp, 7 cs.; International F'd'g. Co., Europa, Bremen, 5 cs.; Japan Paper Co., Europa, Bremen, 5 cs.

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K. Pauli Co., Hamburg, Hamburg, 23 cs.; Globe Shipping Co., Hamburg, Hamburg, 28 cs.; International F'd'g. Co., Deutschland, Hamburg, 7 cs.

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PAPER TUBES

Thomas Company, Deutschland, Hamburg, 10 cs.

MISCELLANEOUS PAPER

A. Brown & Bro., Hamburg, Hamburg, 4 cs.; Globe Shipping Co., Frankfurt, Bremen, 10 cs.; ——, Frankfurt, Bremen, 12 cs.; Eastman Kodak Co., Aquitanis, Southampton, 1 cs.; Keller Dorian Paper Co., Rochambeau, Havre, 11 cs.; Keller Dorian Paper Co., Champlain, Havre, 8 cs.; Manufacturers Trust Co., J. Jadot, Antwerp, 25 bls.; Remington Rand, Inc., Deutschland, Hamburg, 9 cs.

RAGS, BAGGINGS, ETC.

Darmstadt Scott & Courtney, Coelleda, Manchester, 35 bls. paper stock; Hicks Costarino Co., McKeesport, Havre, 34 bls. rags; Castle & Overton, Inc., McKeesport, Havre, 31 bls. rags; V. Galaup, Inc., McKeesport, Havre, 41 bls. rags; Irving Trust Co., McKeesport, Havre, 37 bls. new cuttings; T. D. Downing & Co., Cameronia, Glasgow, 51 bls. bagging; A. H. Searle, Inc., Cameronia, Glasgow, 3 bls. paper stock; ——, Amer. Farmer, London, 38 bls. rags; M. Snedeker Corp., Lucia C, Venice 60 bls. rags; ——, Aurania, Southampton, 56 bls. paper stock; ——, Deutschland, Hamburg, 72 bls. rags; Chase National Bank, Deutschland, Hamburg, 55 bls. rags.

CASEIN

D. C. Andrews & Co., Deutschland, Hamburg, 60 bags.

GLUE STOCK, ETC.

——, Hamburg, Hamburg, 150 bags hide glue; ——, Hamburg, Hamburg, 100 bags bone glue; ——, Frankfurt, Bremen, 163 bags hide glue; ——, Deutschland, Hamburg,

100 bags hide glue; ——, Deutschland, Hamburg, 50 bags bone glue.

OLD ROPE

Banco Coml. Italiane Trust Co., Hamburg, Hamburg, 40 coils; ——, Coelleda, Manchester, 36 coils.

WOOD PULP

Castle & Overton, Inc., Hamburg, Hamburg, 600 bls. wood pulp, 120 tons; E. M. Sergeant & Co., Topdalsfjord, Oslo, 300 bls. chemical; J. Andersen & Co., Topdalsfjord, Oslo, 275 bls. sulphite; Irving Trust Co., Topdalsfjord, Oslo, 1,000 bls. chemical; Atterbury Bros., Inc., Topdalsfjord, Drammen, 1,600 bls. chemical; Castle & Overton, Inc., Deutschland, Hamburg, 980 bls. wood pulp, 196 tons; E. J. Keller Co., Inc., Scanmail, ——, 672 bls. wood pulp, 101 tons; E. J. Keller Co., Inc., Pr. Harding, —— 367 bls. wood pulp, 57 tons.

ALBANY IMPORTS

WEEK ENDING JANUARY 14, 1933

——, Planet, Stugsund, 1,750 bls. sulphite, 350 tons; E. M. Sergeant & Co., Topdalsfjord, Oslo, 3,000 bls. chemical; Chemical Bank Trust Co., Topdalsfjord, Oslo, 600 bls. sulphite; Gottesman & Co., Inc., Topdalsfjord, Drammen, 4,000 bls. sulphite.

PORTLAND IMPORTS

WEEK ENDING JANUARY 14, 1933

J. Andersen & Co., Planet, Soderham, 2,500 bls. sulphate, 500 tons; J. Andersen & Co., Planet, Munksund, 6,000 bls. sulphate, 1,000 tons; Gottesman & Co., Inc., Topdalsfjord, Oslo, 2,400 bls. sulphate; Waterfalls Papermills Co., Topdalsfjord, 24 bls. sulphite; Price & Pierce, Ltd., Topdalsfjord, Oslo, 250 bls. sulphite; Perkins, Goodwin & Co., Topdalsfjord, Drammen, 500 bls. sulphite; Atterbury Bros., Inc., Topdalsfjord, Drammen, 2,400 bls. sulphite; Gottesman & Co., Inc., City of Fairbury, Sweden, 6,165 bls. wood pulp.

BOSTON IMPORTS

WEEK ENDING JANUARY 14, 1933

E. J. Keller Co., Inc., McKeesport, ——, 50 bls. bagging:——,Planet, Stugsund, 875 bls. sulphite, 175 tons; Perkins Goodwin & Co., Planet, Hernosand, 6,750 bls. sulphate, 1,125 tons; 1,800 bls. sulphite, 300 tons; Perkins, Goodwin & Co., Planet, Munksund, 12,000 bls. sulphite, 2,000 tons; Perkins Goodwin & Co., Planet, Sundsvall, 375 bls. sulphite, 76 tons; 3,750 bls. sulphate, 635 tons; Johaneson Wales & Sparre, Inc., Planet, Sundsvall, 2,854 bls. sulphite, 500 tons; Bulkley Dunton & Co., Planet, ——, 250 bls. chemical, 50 tons; Gottesman & Co., Inc., Brosund, Sweden, 2,700 bls. wood pulp.

PHILADELPHIA IMPORTS

WEEK ENDING JANUARY 14, 1933

Castle & Overton, Inc., McKeesport, Rouen, 64 bls. rags; Keene & Arkus, McKeesport, Rouen, 54 bls. rags; E. J. Keller Co., Inc., Excalibur, ——, 80 bls. rags; E. J. Keller Co., Inc., Examiner, ——, 144 bls. rags.

NORFOLK IMPORTS

WEEK ENDING JANUARY 14, 1933

Albermarle Paper Manfg. Co., Coellda, Liverpool, 17 cases tissue paper; ——, Coellda, Liverpool, 110 bls. bagging.

BALTIMORE IMPORTS

WEEK ENDING JANUARY 14, 1933

——, Planet, Stugsund, 750 bls. sulphite, 150 tons; ——, Planet, Hernosand, 1,500 bls. sulphate, 250 tons; Mead Sales Co., Planet, Sundsvall, 4,296 bls. sulphite, 737 tons; Johaneson Wales & Sparre, Inc., Planet, Sundsvall, 1,695 bls. sulphite, 299 tons; Gottesman & Co., Inc., Tampa, Sweden, 1,104 bls. wood pulp; Gottesman & Co., Inc., Trolleholm, Sweden, 2,880 bls. wood pulp.

SELF-REGULATION AND LAW

(Continued from page 42)

finding body. By-laws, codes, or any other form of written agreement are treated as contracts in commerce. A corporation or trade association may publish such proposed regulations and submit them to the Federal Authorities. If the Attorney General has reason to believe that they will substantially lessen competition or tend to create a monopoly, he shall file a complaint with the Federal Trade Commission. Where the Commission, after hearing the case, decides that restraint of trade would result, it may issue an order requiring the parties to desist from carrying out the contract. On the other hand, where no restraining order is issued by the Commission, or by the courts through which its action may be reviewed, the parties who attempt to put the contract in force are to be immune from criminal prosecution. On application of the Attorney General, the commission may at any time amend or reverse its decision, if it finds on further hearing that there has been a change of circumstance surrounding the contract or performance which makes it a restraint of trade.

Elbow Room Through Adjudication of Cases

No doubt "contracts in commerce" are possible today without such an amendement. To take a concrete case let us suppose that an industry is suffering loss and depreciation through some uneconomic but prevailing practice such as free delivery or other forms of rebate. Since open rebates are not illegal per se, the burden of eradicating the evil rests on the trade concerned. The task is primarily educational, but in time some sanction for group action may be required. The industry may reach the point where a large proportion of its members are able to sign a bona fide agreement to abstain from the practice as was done by the paint group in their Nonexchange Agreement. Whether such a contract could be enforced by injunction or by a suit for damages will not be known until a test case has been taken into the courts. Another test case would be required to determine whether the irresponsible outsider, who had not signed the contract, could be legally restrained on the ground of unfair competition.

The normal way in which the law grows is through adjudication. As already pointed out the Federal Trade Commission might be of help now in that direction. One remedy for fear of the law is courage. A trade association assuming that it went into court with clean hands that its conscience was clear as to restraint of trade could remove uncertainty and advance the cause of self-regulation by carrying such a case up to the Supreme Court. The Sugar Institute had done just that. In its attempt to curb the rebating evil through joint action it was performing a public service in standing by its guns and compelling the Department of Justice to prove it in the wrong. The Cement and Maple Flooring groups by carrying their cases through, won larger elbow room for themselves and for the entire business world. It is the lack of group courage of this sort which is responsible for the fact that the sum of definite precedents on concerted action is so distressingly small.

To reach that point, however, most of our trade associations would require stronger leadership than they now possess. And not every organization has the financial resources of the Sugar Institute. If the legal definition of fair and unfair practice, of reasonable and unreasonable restraint of trade, is to keep pace with business needs, it is essential to have an administrative tribunal like the Federal Trade Commission, specializing on trade practice and given ample power to pass on measures of concerted action that may be proposed.

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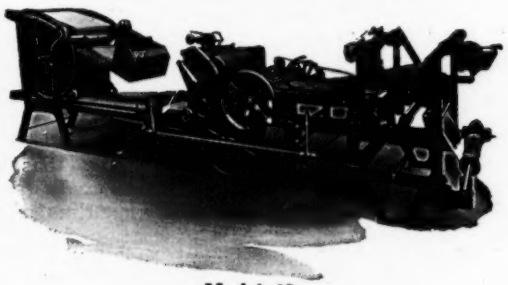

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New York Market Review

Office of the PAPER TRADE JOURNAL,
Wednesday, January 18, 1933.

During the past week the local paper market was slightly more active. While demand for the various standard grades of paper is still light, inquiries for future account are more numerous and should result in the booking of some good orders in the near future. The price situation, in most instances, is practically unchanged.

The news print market is marking time for the present. Production of news print paper in the United States, Canada and Newfoundland is being maintained in sufficient volume to take care of current requirements. Efforts to stabilize the industry are still being made, but progress is slow. The price situation continues unsatisfactory.

Although production of paper board has been curtailed of late, following the usual custom in the industry at this time of year, the output will be speeded up from now on and more lively trading is anticipated. No radical changes have taken place in the fine paper market. The kraft wrapping paper market is firmer and advanced prices are anticipated.

Mechanical Pulp

The feature of the ground wood pulp market during the past week was the advance in prices of imported mechanical pulp. No. 1 moist imported ground wood pulp is now quoted at from $18 to $20 per ton, and dry at from $19 to $21 per ton, on dock, Atlantic ports. No. 1 domestic and Canadian mechanical pulp is selling at from $14 to $22 per ton, f.o.b. pulp mill.

Chemical Pulp

While demand for the various grades of foreign and domestic chemical pulp is rather listless, the market is fairly steady. Imported Mitcherlich unbleached is slightly firmer and is now quoted at from $1.60 to $1.75, on dock, Atlantic ports. Domestic and Canadian Mitcherlich unbleached is quoted as being offered at from $2.00 to $2.25, f.o.b. pulp mill.

Old Rope and Bagging

The position of the old rope market is practically unchanged. Paper mill demand for domestic and imported old manila rope is still restricted. Small mixed rope is only moving slowly. Old rope prices are nominal. The bagging market is irregular. While scrap bagging is fairly active, roofing bagging is quiet. Gunny bagging is spotty.

Rags

Demand from the paper mills for the various grades of domestic rags is only moderately active. Cotton cuttings, however, are arousing a little more interest than of late. Roofing grades are going forward in seasonal volume. Quotations on domestic rags are strictly nominal. The imported rag market is still affected by the foreign exchange situation.

Waste Paper

Now that the inventory period is practically over, more lively trading is anticipated in the paper stock market, which has been marking time of late. The board mills are beginning to show revived interest in the lower grades and prices are generally well maintained. The better grades of waste paper continue steady.

Twine

Business in the twine market is rather dull and most of the orders received of late have been along routine lines. In some quarters an increased demand is anticipated in the near future, now that the inventory period is out of the way. Despite keen competition for extra desirable orders, quotations are holding up fairly well.

PHILADELPHIA MARKET IRREGULAR

(Continued from page 15)

mon thought that if the government of the United States found itself in difficulties in balancing the budget and if foreign nations could repudiate obligations, the moral effect on business life was to say the least detrimental. For that reason extreme caution should be exercised in extending credits, and that it was far better for all concerned to refuse to take orders from those of doubtful ability to pay rather than to add further demoralization by unwise extension of credit.

News of the Trade

Announcement is made of the meeting of the Delaware Valley Section at the Engineers Club, to be preceded by a dinner on Friday, January 20, at which three very interesting papers will be presented:—Centrifugal extracting of dirt and pulp in paper, by Walter L. Glass, of the Shartle Bros. Company.; An estimation of dirt and shives in pulp and paper, by James D'Arcy Clark; The paper machine screen and its functions, by John Roslund, of the Moore & White Company.

During the week there was a call by the Atlas Paper Company, Second and Vine streets, to its creditors for a meeting to consider its status. Representatives of these creditors were advised that at a meeting in the office of the firm's attorneys, its liabilities bulked up to approximately $67,000 but that it was not possible at this time to present an exact statement of its book accounts. A committee of the creditors will study the situation and report back. The Atlas Paper Company deal in wrapping paper and twine.

The Paper Merchants, 140 North 6th street, will shortly issue a loose leaf price-list of more than 100 pages listing the very extensive lines which it carries; among the leaders being Hammermill, American Writing, Dill and Collins, Esleek Manufacturing Company, Millers Falls, Parson, McLaurin-Jones Company, in addition to those of its own brands.

The Moore & White Company are installing their latest high speed cutter and lay boy in the Paterson Parchment Paper Co., Edgely, Pa., and also a sizing and drying equipment for the W. C. Hamilton Company, at Miquon, Pa.

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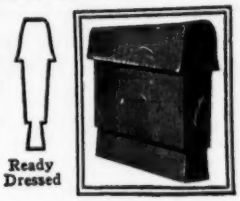

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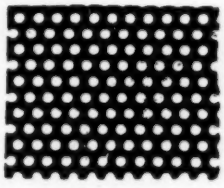

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Miscellaneous Markets

Office of the PAPER TRADE JOURNAL,
Wednesday, January 18, 1933.

BLANC FIXE.—The position of the blanc fixe market is practically unchanged. Prices are holding to schedule. The pulp is quoted at from $42.50 to $45.00 per ton, in bulk; while the powder is selling at from 3½ cents to 3¾ cents per pound, in barrels, at works.

BLEACHING POWDER.—Demand for bleaching powder is only moderately active. The contract movement is fairly regular. Prices are generally holding to previously quoted levels. Bleaching powder is selling at from $1.75 to $2.00 per 100 pounds, in drums at works.

CASEIN.—The casein market is marking time. Domestic standard ground is still quoted at 7 cents and finely ground at 8 cents per pound. Argentine standard ground is selling at 8 cents and finely ground at 8½ cents per pound, all in bags, car lot quantities.

CAUSTIC SODA.—Steadiness prevails in the caustic soda market. The contract movement is seasonal. Solid caustic soda is quoted at from $2.55 to $2.60; while the flake and the ground are selling at from $2.95 to $3.00 per 100 pounds, in large drums, at works.

CHINA CLAY.—The china clay market is fairly active. Shipments against contract are moderately heavy. Imported china clay is quoted at from $10 to $15 per ton, ship side; while domestic paper making clay is selling at from $5 to $12 per ton, at mine.

CHLORINE.—Some improvement was noticed in the chlorine market during the past week. The contract movement is about normal. Prices continue firm. Chlorine is quoted at $1.75 per 100 pounds, in tanks, or multi-unit cars, in ton lots, or over, at works.

ROSIN.—The rosin market advanced slightly. The grades of gum rosin used in the paper mills are now quoted at from $3.60 to $3.90 per 280 pounds, in barrels, at works; while wood rosin is selling at $2.60 per 280 pounds, in barrels, at southern shipping points.

SALT CAKE.—Conditions in the salt cake market are fairly satisfactory. Prices are steady. Salt cake is quoted at from $13 to $14; chrome salt cake at from $12 to $13 per ton, in bulk, at works; while imported salt cake is selling at from $13 to $14 per ton, on dock.

SODA ASH.—The soda ash market is exhibiting a fairly strong undertone. Contract shipments are moving at a steady pace. Quotations on soda ash, in car lots, at works, per 100 pounds, are as follows: in bulk, $1.05; in bags, $1.30; and in barrels, $1.43.

STARCH.—Most of the business transacted in the starch market during the past week was along routine lines. Prices remain unchanged. Special paper making starch is quoted at $2.19 per 100 pounds, in bags; and at $2.46 per 100 pounds, in barrels, at works.

SULPHATE OF ALUMINA.—The sulphate of alumina market is rather quiet at present. Prices are holding to schedule. Commercial grades are quoted at from $1.25 to $1.46; while iron free is selling at from $1.90 to $2.05 per 100 pounds, in barrels, at works.

SULPHUR.—The sulphur market continues steady. Sulphur is quoted at $18 per long ton, on orders of 1,000 tons, or over, on yearly contracts; and at $20 per ton on any smaller quantity over that period. On spot and near by car loads, the quotation is $21 per ton.

TALC.—Trading in the talc market is light. Prices are holding to previously quoted levels without diffculty. Domestic talc is quoted at from $16 to $18 per ton, in bulk, at mine; while imported talc is selling at from $18 to $22 per ton, in bags, ship side.

Market Quotations

Paper

(F. o. b. Mill)

Ledgers	6.50	@	38.00
Bonds	4.50	@	53.25
Index	6.00	@	12.00
Writings—			
Extra Superfine	6.50	@	15.00
Superfine	6.25	@	14.75
Tub sized	4.50	@	7.00
Engine sized	4.00	@	5.00
Book. Cased—			
S. & S. C.	4.25	@	5.00
M. F.	3.75	@	4.25
Coated and Enamel	5.00	@	9.00
Lithograph	5.00	@	9.00
Tissues—Per Ream—			
White No. 1	.50	@	.70
Anti-Tarnish M. G. only	.65	@	.70
Colored	.70	@	.90
White No. 2	.55	@	.60
Kraft	.65	@	.70
Manila	.55	@	.60
Manila—			
No. 1 Jute	9.00	@	9.25
No. 2 Jute	7.75	@	8.50
No. 1 Wood	4.00	@	5.25
No. 2 Wood	3.50	@	4.00
Butchers	3.37½	@	—
Fibre Papers—			
No. 1 Fibre	4.25	@	5.50
No. 2 Fibre	4.00	@	4.75
Common Bogus	1.50	@	3.00
Screenings	2.00	@	3.00
Card Middles	4.00	@	5.00
Glassine—			
Bleached, basis 25 lbs., No. 1	.09¾	@	—
No. 2	.11¾	@	—
Bleached, basis 20 lbs.	.11¾	@	—

(Delivered New York)

News, per ton—			
Roll, contract	45.00	@	—
Rolls, spot	45.00	@	—
Sheets	50.00	@	—
Side Runs	30.00	@	35.00
Kraft—			
No. 1 Domestic	4.50	@	4.75
No. 2 Domestic	2.37½	@	2.75
Southern	2.25	@	2.50
Imported	2.75	@	3.50
Boards—per ton—			
News	30.00	@	32.50
Straw	29.50	@	31.50
Chip	27.50	@	30.00
Binders' Boards	62.00	@	70.00
Kraft Liner	40.00	@	45.00
Standard 85 Test			
Jute Liner	27.50	@	30.00
Sgl. Mla. Ll. Chip	37.50	@	40.00

(F. o. b. Mill)

Wood Pulp Boards	70.00	@	80.00

Mechanical Pulp

(On Dock, Atlantic Ports)

No. 1 Imported—			
Moist	18.00	@	20.00
Dry	19.00	@	21.00

(F. o. b. Mill)

No. 1 Domestic and Canadian	14.00	@	22.00

Chemical Pulp

(On Dock, Atlantic Ports)

Sulphite (Imported)—			
Bleached	1.80	@	2.25
Easy Bleaching	1.60	@	1.75
No. 1 strong unbleached	1.35	@	1.60
Mitscherlich unbleached	1.60	@	1.75
No. 2 strong unbleached	1.25	@	1.35
No. 1 Kraft	1.25	@	1.40
No. 2 Kraft	1.10	@	1.15
Sulphate—			
Bleached	1.85	@	2.15

(F. o. b. Pulp Mill)

Sulphite (Domestic and Canadian)—			
Bleached	1.75	@	3.75
Easy Bleaching	1.75	@	1.90
News	1.40	@	1.65
Mitscherlich unbleached	2.00	@	2.25
Kraft (Domestic)	1.25	@	2.75

(Delivered Paper Mills)

Soda Bleached	2.00	@	—

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—			
New White, No. 1	4.00	@	4.25
New White, No. 2	3.00	@	3.25
Silesias No. 1	3.75	@	4.00
New Unbleached	5.50	@	6.00
New Soft Blacks	2.75	@	3.00
Blue Overall	3.00	@	3.50
Fancy	1.50	@	1.75
Washables	1.15	@	1.40
Mixed Khaki Cuttings	2.50	@	3.00
Pink Corset Cuttings	2.75	@	3.25
O. D. Khaki Cuttings	3.00	@	3.25
Men's Corduroy	1.00	@	1.25
New Mixed Blacks	2.25	@	2.50

Old Rags

White, No. 1—			
Repacked	3.00	@	3.50
Miscellaneous	2.00	@	2.25
White, No. 2—			
Repacked	1.75	@	2.00
Miscellaneous	1.50	@	1.75
Thirds and Blues—			
Repacked	1.50	@	1.75
Miscellaneous	1.00	@	1.25
Black Stockings	2.00	@	2.25
Roofing Rags—			
No. 1	.53	@	.58
No. 2	.48	@	.53
No. 3	.43	@	.48
No. 4	.38	@	.43
No. 5A	.33	@	.38

Foreign Rags

New Rags

New Dark Cuttings	1.40	@	1.50
New Mixed Cuttings	1.60	@	1.75
New Light Silesias	3.00	@	3.25
Light Flannelettes	2.50	@	2.75
Unbleached Cuttings	4.75	@	5.25
New White Cuttings	4.00	@	4.25
New Light Oxfords	3.00	@	3.25
New Light Prints	1.85	@	2.25

Old Rags

No. 1 White Linens	5.25	@	5.50
No. 2 White Linens	4.50	@	4.75
No. 3 White Linens	3.25	@	3.75
No. 4 White Linens	1.75	@	2.25
No. 1 White Cotton	3.50	@	3.75
No. 2 White Cotton	2.75	@	3.25
No. 3 White Cotton	2.25	@	2.50
No. 4 White Cotton	1.40	@	1.50
Extra Light Prints	1.80	@	2.00
Ord. Light Prints	1.60	@	1.75
Med. Light Prints	1.40	@	1.55
Dutch Blue Cottons	1.35	@	1.40
French Blue Linens	1.80	@	1.90
German Blue Linens	1.70	@	1.80
German Blue Cottons	1.20	@	1.25
Checks and Blues	1.25	@	1.30
Lindsay Garments	.75	@	.80
Dark Cottons	.70	@	.75
Old Shopperies	.55	@	.60
New Shopperies	.60	@	.65
French Blues	1.25	@	1.30

Old Rope and Bagging

(Prices to Mill f. o. b. N. Y.)

Jute No. 1—			
Foreign	.90	@	1.00
Domestic	1.00	@	1.10
Wool Tares, light	.70	@	.80
Wool Tares, heavy	.70	@	.80
Bright Bagging	.70	@	.75
Small Mixed Rope	.50	@	.60
Manila Rope—			
Foreign	1.35	@	1.40
Domestic	1.40	@	1.50
New Burlap Cut	1.00	@	1.50
Hessian Jute Threads—			
Foreign	2.60	@	2.75
Domestic	2.80	@	3.00

Old Waste Papers

(F. o. b. New York)

Shavings—			
White Envelope Cuttings	1.70	@	1.80
Ordinary Hard White No. 1	1.55	@	1.65
Hard White No. 2	1.30	@	1.40
Soft White No. 1	1.40	@	1.50
Flat Stock—			
Stitchless	.55	@	.65
Overissue Mag	.55	@	.65
Solid Flat Book	.50	@	.55
Crumpled No. 1	.40	@	.45
Solid Book Ledger	1.50	@	1.75
Ledger Stock	.45	@	.55
New B. B. Chips	.20	@	.25
Manilas—			
New Env. Cut	1.25	@	1.35
New Cuttings	1.00	@	1.05
Extra No. 1 old	.80	@	.90
Print	.35	@	.40
Bogus Wrapper	.30	@	.35
Container	.25	@	.30
Old Kraft Machine—			
Compressed bales	.75	@	.85
News—			
No. 1 White News	1.00	@	1.05
Strictly Overissue	.50	@	.55
Strictly Folded	.35	@	.40
No. 1 Mixed Paper	.17½	@	.22½

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Twines

(F. o. b. Mill)

Cotton—			
B. C., 18 basis	.30	@	.32
No. 1	.20	@	.22
No. 2	.19	@	.20
No. 3	.17	@	.18
A. Italian, 18 basis	.36	@	.37
Finished Jute—			
Dark, 18 basis	.18	@	.20
Light, 18 basis	.20	@	.22
Jute Wrapping, 3-6 Ply—			
No. 1	.15½	@	.16½
No. 2	.11¼	@	.12¾
Tube Rope—			
4-ply and larger	.10¼	@	.10¾
Fine Tube Rope—			
4-ply	.12¼	@	.12¾
3-ply	.13¼	@	.13¾
2-ply	.14¼	@	.14¾
Paper Makers Twine			
Balls	.09¼	@	.11¼
Box Twine, 2-3 ply	.11¼	@	.12¾
Jute Rope	.09	@	.10
White Hemp	.12¼	@	.12¾
Java Sisal—			
No. 1 Basis	.10	@	—
No. 2 Basis	.09	@	—
New Zealand Sisal	.10	@	—
Sisal Lath Yarn—			
No. 1	.12	@	.14
No. 2	.10	@	.12
Manila Twine	.23	@	.28

CHICAGO

Paper

(F. o. b. Mill)

Bag Bond	.30	@	.53¼
Water Marked Sulphite Bond	.09	@	.12
Sulphite Bond	.04	@	.11
Superfine Writing	.18	@	.24
No. 1 Fine Writing	.14	@	.18
No. 2 Fine Writing	.12	@	.14
No. 3 Fine Writing	.07	@	.18
No. 1 M. F. Book	.06½	@	.07¼
No. 2 M. F. Book	.05¼	@	.06¼
No. 1 S.&S.C. Book	.06¾	@	.07¾
No. 2 S.&S.C. Book	.05¾	@	.06½
Coated Book	.07½	@	.12
Coated Label	.07½	@	.10
No. 1 Manila	.04¼	@	.05¾
No. 1 Fibre	.04¾	@	.05¼
No. 2 Manila	.04¼	@	.04¾
Butcher's Manila	.03¼	@	.03¾
No. 1 Kraft	3.50	@	4.50
Southern Kraft	2.62½	@	—
No. 2 Kraft	2.62½	@	—
Wood Tag Boards	.04¼	@	.06¾
Sulphite Screenings	.03	@	.03½
Manila Tissue	.07	@	.07½
White Tissue	.07¼	@	.07½
(Delivered Central Territory)			
News, per ton—			
Rolls, contract	45.00	@	—
Sheets	50.00	@	—
Boards, per ton—			
Plain Chip	27.50	@	—
Solid News	30.00	@	—
Manila Lined Chip	37.50	@	—
Patent coated	47.50	@	—
Container Lined—			
85 Test	50.00	@	55.00
100 Test	55.00	@	60.00

Old Papers

(F. o. b. Chicago)

Shavings—			
No. 1 White Envelope cuttings	1.50	@	1.55
No. 1 Hard White	1.40	@	1.45
No. 1 Soft White	1.00	@	1.10
Ledger & Writings	.55	@	.60
Solid Books	.45	@	.50
Blanks	1.00	@	1.05
Krafts	.70	@	.80
New Kraft Cuts	1.15	@	1.25
Manila Env. Cuts	1.25	@	1.30
Ex. No 1 Manila	.90	@	1.00
Print Manila	.30	@	.40
Overissue News	.45	@	.50
Old Newspapers—			
No. 1	.45	@	.50
Mixed Papers—			
No. 1	.25	@	.30
Roofing Stocks—			
No. 1	30.00	@	—
No. 2	28.00	@	—

PHILADELPHIA

Paper

(F. o. b. Mill)

Bonds	.04	@	.40
Ledgers	.06	@	.40
Writings—			
Superfine	.10	@	.18
Extra Fine	.15	@	.26
Fine	.15	@	.26
Fine, No. 2	.10	@	.25
Fine No. 3	.05½	@	.18
Book, M. F.	.04¾	@	.07
Book, S. S. & C.	.05	@	.07½
Book, Coated	.06	@	.16
Coated Lithograph	.06	@	.11
Label	.07	@	.11
No. 1 Jute Manila	.06	@	.09
Manila Sul., No. 1	.03	@	.05
Manila No. 2	.03	@	.04
No. 1 Kraft	.05¼	@	.06
No. 2 Kraft	.03¾	@	.04¼
Southern Kraft No. 1	—	@	.03¾
Southern Kraft No. 2	—	@	.02¼
Common Bogus	.03	@	.04
(Delivered Philadelphia)			
News Print Rolls	46.00	@	—
Straw Board	32.00	@	—
News Board	30.00	@	—
Chip Board	30.00	@	—
Wood Pulp Board	70.00	@	80.00
Binder Boards—			
No. 1, per ton	73.00	@	75.00
No. 2, per ton	62.00	@	65.00
Carload lots	60.00	@	65.00
Tarred Felts—			
Regular	52.25	@	54.25
Slaters (per roll)	.84	@	.94
Best Tarred, 1-ply (per roll)	1.95	@	2.10
Best Tarred, 2-ply (per roll)	1 50	@	1.60
Best Tarred, 3-ply	2.00	@	2.25

Domestic Rags (New)

(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White, No. 1.	.03½	@	.04
New White, No. 2.	.02½	@	.04
Light Silesias	.02½	@	.03
Silesias, No. 1	.03	@	.03½
Black Silesias, soft.	.02½	@	.03
New Unbleached	.05	@	.05½
Washable, No. 1	.01	@	.01½
Blue Overall	.03	@	.03½
Cottons—According to grades—			
Washable, No. 2	.01	@	.02
New Blue	.01	@	.02
Fancy	.01½	@	—
New Black Soft	.02	@	.03
New Light Seconds	.01	@	.02
New Dark Seconds	1.50	@	1.75
Khaki Cuttings—			
No. 1 O.D.	.03	@	.03½
No. 2 Mixed	.02½	@	.03
Corduroy	.02	@	.02½
New Canvas	.03½	@	.04
New Black Mixed.	.02½	@	.03

Domestic Rags (Old)

White No. 1—			
Repacked	2.50	@	3.00
Miscellaneous	1.75	@	2.00
M. G.	3.00	@	3.50
Thirds and Blues—			
Miscellaneous	1.00	@	1.25
Repacked	1.50	@	1.75
Black Stockings (Export)	2.00	@	3.50
Roofing Stock—			
Foreign No. 1	.50	@	.75
Repacked	.70	@	.80

Bagging

(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	1.25	@	1.50
Domestic	1.50	@	—
Manila Rope	2.00	@	2.25
Sisal Rope	1.25	@	1.50
Mixed Rope	1.00	@	1.10
Scrap Burlaps—			
No. 1	1.25	@	1.50
No. 2	.80	@	1.00
Wool Tares, heavy	2.75	@	—
Mixed Strings	1.15	@	1.25
No. 1 New Light Burlap	2.25	@	2.50
New Burlap Cuttings	2.00	@	2.25

Old Papers

(F. o. b. Phila.)

Shavings—			
No. 1 Hard White.	1.60	@	1.70
No. 2 Hard White.	1.50	@	1.60
No. 1 Soft White.	1.40	@	1.45
No. 2 Soft White.	1.10	@	1.15
No. 1 Mixed.	.50	@	.60
No. 2 Mixed.	.40	@	.50
Solid Ledger Stock.	1.00	@	1.10
Writing Paper.	.65	@	.70
No. 1 Books, heavy.	.55	@	—
No. 2 Books, light.	.40	@	—
No. 1 New Manila.	1.10	@	1.15
No. 1 Old Manila.	.60	@	.65
Print Manila.	.40	@	.45
Container Manila.	.35	@	.40
Old Kraft	.85	@	.90
Common Paper.	.20	@	.25
No. 1 Mixed Paper.	.25	@	.30
Straw Board, Chip.	.25	@	.30
Binders Board, Chip.	.25	@	.30
Corrugated Board.	.35	@	.45
Overissue News	.45	@	.55
Old Newspaper	.30	@	.35

BOSTON

Paper

(F. o. b. Mill)

Ledgers—			
Sulphite	.06	@	.12½
Rag Content	.12	@	.30
All Rag	.36	@	.52½
Bonds—			
Sulphite	.05½	@	.11½
Rag Content	.12	@	.30
All Rag	.36	@	.65
Writings	.06½	@	.20
Superfines	.11	@	.31
Book, Super	.06	@	.09
Book, M. F.	.05½	@	.08½
Book, Coated	.08½	@	.18
Coated Litho	.09	@	.12
Label	.09½	@	.15
Jute Manila No. 1	.11	@	.13
Manila, Sul. No. 1	.04¾	@	.06½
Manila, Sul. No. 2	.03¾	@	.04½
No. 1 Kraft	—	@	.04¾
No. 2 Kraft	—	@	.02¾
(F. o. b. Boston)			
Southern Kraft	.02½	@	—
(F. o. b. destination in carload lots, f. o. b. mill in less than carload lots.)			
Common Bogus	.02	@	.02¾
(Delivered New England points)			
News Print, rolls	44.50	@	—
Straw Board, rolls.009	—	@	35.00
Straw Board in Sheets, basis 35s to 70s	—	@	40.00
Filled News Board	—	@	30.00
Chip Board	27.50	@	—
Chip Board (Creasing)	27.50	@	30.00
Single Manila Lined Chip	—	@	37.50
Single White, Patent Coated News Board—			
Bender	45.00	@	55.00
Wood Pulp Board	70.00	@	75.00
Binder Boards	62.00	@	75.00

Old Papers

(F. o. b. Boston)

Shavings—			
No. 1 Soft White.	1.40	@	1.60
No. 1 Old Manila.	.50	@	.60
No. 1 Mixed	.60	@	.70
No. 2 Mixed	.40	@	.50
Solid Ledger Books.	1.20	@	1.40
Overissue Ledger Stock	1.15	@	1.30
Mixed Ledgers	.60	@	.70
No. 1 Books, heavy.	.55	@	.65
No. 1 Books, light.	—	@	.30
Crumpled Stitchless Book Stock	.50	@	.60
Manila Env. Cuttings	1.25	@	1.30
No. 1 Old Manila	.50	@	.60
White Blank News.	.80	@	.85
No. 1 Kraft	.65	@	.75
Manila	.80	@	.90
No. 1 Mixed Papers.	.12½	@	.15
Print Manila	.30	@	.40
Overissue News	.35	@	.45
Old Newspapers	.25	@	.30
Box Board, Chip	.17½	@	.20
Corrugated Boxes	—	@	.20
Screening Wrappers.	.25	@	.32½

Bagging

(F. o. b. Boston)

Gunny No. 1—			
Foreign	.95	@	1.00
Domestic	.60	@	.70
Manila Rope—			
Foreign	1.37½	@	1.42½
Domestic	—	@	1.60
Transmission Rope	—	@	.90
Mixed Strings	.25	@	.30
Jute Rope	—	@	.75
Jute Carpet Threads	.25	@	.30
Bleachery Burlap	1.75	@	2.00
Scrap Burlap	.50	@	.75
No. 1 Scrap Burlap	.65	@	.75
Scrap Sisal	.80	@	—
Scrap Sisal for shredding	—	@	.90
Wool Tares, heavy	.65	@	.75
New Burlap Cutting	.75	@	.90
Australian Wool Pouches	2.00	@	—
Heavy Baling Bagging	.90	@	1.10
Paper Mill Bagging	.50	@	.60
Bagging No. 2	.20	@	.25
No. 1 Burlap	1.75	@	2.00

Domestic Rags (New)

(F. o. b. Boston)

Shirt Cuttings—			
New Light Prints.	—	@	.01½
New White No. 1.	.03¾	@	.04
New White No. 2.	.02¾	@	.03¼
Silesias No. 1	—	@	.03
New Black Silesias	.02½	@	.02¾
New Unbleached	.05	@	.05¼
Fancy	—	@	.02½
Washable	—	@	.01¾
Cottons—According to grades—			
Blue Overalls	—	@	.03¾
New Black, soft	.04	@	.04½
Khaki Cuttings	.03	@	.03½
O. D. Khaki	.03½	@	.03¾
Corduroy	.02¾	@	.03
New Canvas	—	@	.05
B.V.D. Cuttings	.04	@	.04½

Domestic Rags (Old)

(F. o. b. Boston)

Canvas	.04½	@	—
White No. 1—			
Repacked	3.00	@	3.50
Miscellaneous	1.50	@	1.75
White No. 2—			
Repacked	.02¾	@	02½
Miscellaneous	.02	@	.02¾
Twos and Blues	.90	@	1.00
Thirds and Blues—			
Repacked	.75	@	.85
Miscellaneous	.70	@	.75
Black Stockings	2.00	@	2.25
Roofing Stock—			
No. 1	.35	@	.40
No. 2	.30	@	.35
No. 3	.25	@	.30

Foreign Rags

(F. o. b. Boston)

Dark Cottons	.50	@	.60
New No. 1 White Shirt Cuttings	3.75	@	4.00
Dutch Blues	1.25	@	1.50
New Checks & Blues	2.25	@	2.50
Old Fustians	—	@	.75
Old Linsey Garments	.55	@	.65

TORONTO

Paper

(F. o. b. Mill)

Bond—			
No. 1 Sulphite	.10¼	@	—
No. 2 Sulphite	.08½	@	—
No. 1 Colored	.10¾	@	
No. 2 Colored	.09	@	.10½
Ledgers (sulphite)	—	@	—
Ledgers, No. 1	.36	@	—
Ledgers, No. 2	.27	@	—
Writing	.09	@	.09½
Book—			
No. 1 M. F. (Carloads)	6.65	@	—
No. 3 M. F. (Carloads)	6.20	@	—
No. 4 M. F. (Carloads)	5.25	@	—
No. 1 S. C. (Carloads)	7.15	@	—
No. 3 S. C. (Carloads)	6.65	@	—
No. 4 S. C. (Carloads)	5.70	@	—
No. 1 Coated and Litho	12.50	@	—
No. 2 Coated and Litho	11.50	@	—
No. 3 Coated and Litho	10.00	@	11.50
Coated tinted	14.00	@	—
Wrapping—			
Rag Brown	4.40	@	—
White Wrap	2.00	@	—
"B" Manila	4.90	@	—
No. 1 Manila	5.40	@	—
Fiber	5.40	@	—
Kraft, M. F.	5.75	@	—
Kraft No. 2	5.40	@	—

(F.O.B. Cars Toronto)

News, per ton—			
Rolls (contract)	45.50	@	—
Sheets	50.50	@	—

Pulp

(F. o. b. Mill)

Ground Wood	18.00	@	20.00
Sulphite easy bleaching	40.00	@	—
Sulphite, news grade	38.00	@	—
Sulphite, bleached	48.00	@	58.00
Sulphate	50.00	@	—

Old Waste Paper

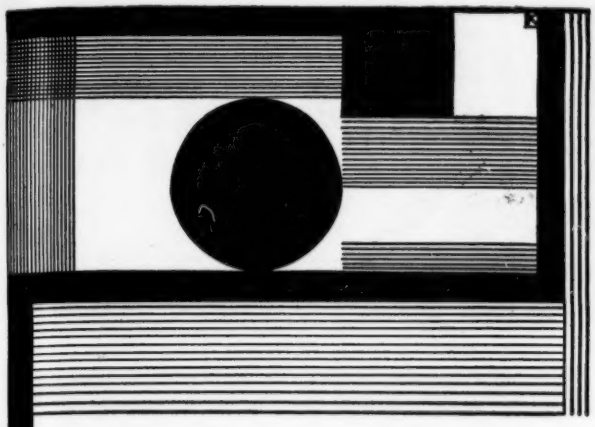
(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut	1.80	@	—
Soft White	1.40	@	—
White Blk. News	1.25	@	—
Book and Ledger—			
Flat Magazine and Book Stock (old)	.90	@	—
Light and Crumpled Book Stock	.80	@	—
Ledgers and Writings	1.00	@	—
Manilas—			
New Manila Cut	1.25	@	—
Printed Manilas	.55	@	—
Kraft	1.75	@	—
News and Scrap—			
Strictly Overissue	.50	@	—
Strictly Folded	.50	@	—
No. 1 Mixed Paper	.40	@	—

Domestic Rags

(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	09½	@	.10
Fancy Shirt Cuttings	.06	@	.06¼



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